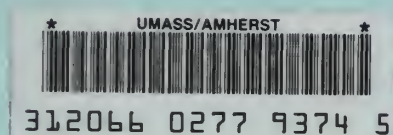


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Adolescent Births: A Statistical Profile

Massachusetts 1999

Supplement to Massachusetts Births 1999

***Massachusetts Department of Public Health
Bureau of Family and Community Health, Office of Statistics and Evaluation
Bureau of Health Statistics, Research and Evaluation***

February 2001

Adolescent Births: A Statistical Profile

***Massachusetts
1999***

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Foreword

Changes in birth data collection affecting information in *Adolescent Births: A Statistical Profile, Massachusetts 1999*¹:

In 1996, Massachusetts implemented a major revision to the birth certificate form and, at the same time, installed in Massachusetts maternity hospitals a new Electronic Birth Certificate (EBC) system (a copy of the current birth certificate can be found in the appendix). As a result, Massachusetts natality data from 1996 onward will afford public health researchers, program planners, the health care community, and the public with vastly expanded information that more accurately reflects their needs and the times. The transition period affected several elements of the 1996 report onward. As a result, not all elements can be compared precisely with data published in editions of this report prior to 1996.

Adequacy of Prenatal Care²: Adequacy of prenatal care is among the data elements affected by the revisions to the birth certificate in 1996. In particular, adequacy of prenatal care information for the years 1996 and following can not be directly compared to data for preceding years. This year's publication reflects an additional computational adjustment in the calculation of adequacy of prenatal care to make Massachusetts data more comparable to the calculations recommended by the National Center for Health Statistics. This new calculation reduces the number of unknown adequacy scores from 995 to 469 in 1999. Adequacy of prenatal care has been recalculated for 1996, 1997, and 1998. These numbers will differ slightly from previously published data.

Race/Ethnicity: The birth information on detailed ethnicity/ancestry groups has been greatly expanded. The assignment of race and ethnicity categories has been slightly modified to more accurately reflect mothers' actual responses. Self-reported information is used for all races and ethnicity groups (mothers who identify themselves as Hispanic are classified as Hispanic regardless of any additional race information they provide). Race data has been separated from ethnicity/ancestry data for the reader's convenience. Please note that the detailed ethnicity groups may not sum to the broad race categories: for example, women who selected detailed

¹ Adapted from the Technical Foreword in *Massachusetts Births 1999*.

² Beginning in 1996, the collection of data for calculation of the Kessner Adequacy Index differed from previous years. From 1986 to 1995, data elements for use in calculating the adequacy index were as follows: Number of Prenatal Visits (NPV), adjusted by birthweight for premature infants, and Month of Pregnancy that Prenatal Care Began (MPPCB), coded as 1-9. Hospitals were required to calculate the MPPCB from data available in medical and prenatal records. Since 1996, the data elements for use in calculating the adequacy index are still NPV and MPPCB (1-9). However, currently NPV is adjusted by the clinical estimate of gestation for premature infants rather than by birthweight. Secondly, rather than have individual hospitals make determinations of MPPCB, the new birth certificate asks hospitals to report the precise Date of First Prenatal Care Visit (DFPCV). This increases the consistency of data collection across facilities and yields a more standardized calculation of MPPCB. Rather unexpectedly, MPPCB in 1996 showed a marked decline in first trimester visits when DFPCV was used to determine the month as opposed to hospitals reporting just the month. When comparing the adequacy index for 1995 through 1997, there is an almost universal decline in state and hospital adequacy rates. This decline is unlikely to reflect a significant actual decline, but rather a data adjustment due to more accurate data collection which began in 1996 and 1997.

ethnicity groups such as Chinese or Japanese may also identify with any race group – Asian, white, black, or other.

Birthplace of Mothers: In 1998, U.S. Territories were part of the “U.S. Born” category. Prior to 1998, women born in Puerto Rico, the U.S. Virgin Islands, and Guam were included in the “Other” category. For this report, women born in the 50 U.S. states and the District of Columbia are designated as *U.S. Born*. Women born in U.S. possessions or protectorates, including Puerto Rico, the U.S. Virgin Islands, and Guam are grouped in the *U.S. Territories* category.

New Population data: The 1999 and 1998 teen birth rate is calculated using the 1998 MISER population estimate, the latest year of data available. All future publications will use the latest MISER figures available for intercensal estimates. As a result of using the updated population estimates, age-specific birth rates in this report differ from previously published data for 1998.

Ultimately, we feel these modifications will greatly enhance the quality, completeness, depth, and utility of the birth certificate data and this publication.

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Executive Summary

Introduction

Adolescent Births: A Statistical Profile, Massachusetts, 1999 is a supplement to the publication *Massachusetts Births 1999*, and presents selected annual statistics and trend data on births among adolescent women in Massachusetts, as well as comparisons with national data. The four sections cover: 1) demographic and birth characteristics and teen birth trends for the state as a whole; 2) birth outcomes and prenatal care including birthweight, gestational age, adequacy of prenatal care, infant mortality, smoking during pregnancy, and mother's educational attainment; 3) teen birth rates and birth characteristics for each of the 25 communities with the highest number of teen births in 1999; and 4) teen birth characteristics for each of the 351 Massachusetts communities and for each of the 27 Community Health Network Areas (CHNAs). Teen births refer to births to resident Massachusetts women under 20 years old, unless specified otherwise. Massachusetts data are from the Registry of Vital Records and Statistics, Bureau of Health Statistics, Research and Evaluation, Massachusetts Department of Public Health (MDPH). United States data are from the Centers for Disease Control and Prevention, National Center for Health Statistics (NCHS).

Overall, Massachusetts continues to have a low birth rate among women ages 15-19 years relative to most other states and the nation as a whole.¹ However, some Massachusetts communities have teen birth rates that are higher than the national rate. Moreover, there are still disparities across race/Hispanic ethnicity subgroups in relation to low birthweight prevalence, adequacy of prenatal care and infant mortality. The data presented in this profile are intended to present information that will assist those planning programs, provide evaluators and researchers with reference measures, and assist policy makers in their efforts to address adolescent health issues.

Summary

I. Statewide Demographic and Birth Characteristics

Number and Percentage of Births to Women under Age 20

- ✓ In 1999, 5,588 infants were born to women under age 20, a decrease of 314 births from the previous year. 1999 had the lowest number of teen births since 1983.
- ✓ In 1999, only 6.9% of all births in Massachusetts were to women under age 20, compared to 7.3% in 1998. Since 1983, the percentage of births that were to women under 20 has decreased 24.2% (from 9.1% to 6.9%), with 1999 representing the lowest percentage in that time period.

¹ National Center for Health Statistics, U.S. Department of Health and Human Services, 1999.

Birth Rates among Women Ages 15-19²

- ✓ The 1999 Massachusetts teen birth rate was 26.6 births per 1,000 women ages 15-19. This represents a decrease from 28.1 births per 1,000 women ages 15-19 in 1998. Following its high in 1989, the teen birth rate for Massachusetts has declined 25.9%.

Age Distribution of Teen Mothers

- ✓ In 1999, 65.5% of all teen births occurred among women ages 18-19 years, 33.2% among women ages 15-17 years, and 1.3% among women under age 15. Over the last six years, the age distribution of teen women giving birth has remained relatively unchanged, with age and number of births being directly related.

Race/Hispanic Ethnicity Distribution of Teen Births

- ✓ In 1999, 48.1% of all teen births (<20 years of age) were to teen women whose race/Hispanic ethnicity was white non-Hispanic. Teen births to white non-Hispanic women continue to account for the largest proportion of all teen births.
- ✓ Over the six-year period from 1994 to 1999, among all teen mothers, the percentage of infants born to black non-Hispanic women has decreased from 15.2% to 12.9%, while the percentage of infants born to Hispanic teen women has increased from 29.7% to 31.2%.
- ✓ Overall, the percentage of teen births to women in the 12-15 year age range decreased by 3.4% between 1998 and 1999 (from 5.9% to 5.7%), with the highest decline among Asian teens at 31.5% (from 10.8% to 7.4%), followed by Hispanic teens at 11.8% (from 9.3% to 8.2%).

Mother's Place of Birth

- ✓ In 1999, 76.0% of all teen mothers were born within the United States or the District of Columbia; among older mothers (20 years and older), there was a slightly higher percentage (77.9%).
- ✓ The percentage of mothers born outside the U.S. varied by race/Hispanic ethnicity within each maternal age group. Among teen births, the majority of black non-Hispanic mothers (84.4%) were born in the U.S., in contrast to Asian teen mothers, where a much smaller percentage (25.1%) were born in the U.S. Among older mothers, 54.3% of black non-Hispanic mothers and 7.1% of Asian mothers were born in the U.S.

² Due to a revised estimation of the population count for 1991-1997, the teen birth rates for these years have been recalculated. Therefore, the 1991-1997 teen birth rates published in prior reports cannot be compared to those in this report.

- ✓ Approximately one in three (31.3%) Hispanic teen mothers were born within US territories, compared to 23.2% of older Hispanic mothers. Regardless of age, there was considerable variation in the proportion of mothers born outside the U.S. across ethnic subgroups.

Previous Live Births

- ✓ In 1999, 16.3% of teen births were to mothers with at least one prior live birth and 2.1% of teen births were to mothers with two or more prior live births. These figures showed little change from 1998 (16.5% and 2.6% respectively).
- ✓ Among the younger teen mother category (ages 12-17), the percentage of multiparous mothers dropped from 8.6% in 1998 to 7.7% in 1999.
- ✓ In 1999, among women ages 18-19, 28.8% of births to Hispanic women, 25.7% of births to black non-Hispanic women, 16.8% of births to Asian women, and 15.5% of births to white non-Hispanic women were to mothers who already had at least one live birth.

Prenatal Care Payment Source

- ✓ The percentage of teen mothers whose prenatal care was supported through public funds was 71.6% in 1999. In contrast, only 22.8% of women 20 and older had their prenatal care supported through public funds in 1999. The opposite trend was present in the use of HMOs as a source of prenatal care. Only 21.4% of teen mothers in 1999 relied on HMOs as a source of prenatal care compared to 62.7% of adult mothers.
- ✓ Among teen mothers, the percentage receiving publicly funded prenatal care varied by race/Hispanic ethnicity: 59.8% of white non-Hispanic teen mothers, 76.2% of black non-Hispanic teen mothers, 86.9% of Hispanic teen mothers, and 75.3% of Asian teen mothers received publicly funded prenatal care.
- ✓ In 1999, 72.3% of unmarried teen mothers and 63.9% of married teen mothers received publicly-funded prenatal care. The figure for unmarried teens increased from 69.3% in 1998.

Marital Status

- ✓ In 1999, 21.7% of births to adult mothers and 91.1% of births to teen mothers were to unmarried women. Among teen mothers, marital status was largely consistent across race/Hispanic ethnicity categories.

In-Hospital Paternity Acknowledgment

- ✓ The overall percentage of births to unmarried women with paternity acknowledgment in the birth hospital has increased from 53.4% in 1994 to 70.4% in 1999.

- ✓ Paternity acknowledgment occurred at a lower rate among unmarried teens than among unmarried adults. In 1999, 65.8% of births to unmarried teen mothers (ages <20) and 71.8% of births to unmarried adult mothers (ages 20+) included in-hospital paternity acknowledgement.
- ✓ An increase in paternity acknowledgment for infants born to unmarried teens occurred among young teen mothers (12-17 years old) between 1998 (61.5%) and 1999 (62.9%). The percentage of paternity acknowledgment for births to older unmarried teens (18-19 year old), however, remained stable from 1998 (67.0%) to 1999 (67.5%).

II. Birth Outcomes and Prenatal Care

Low Birthweight and Gestational Age

- ✓ In 1999, the total proportion of low birthweight births (less than 2,500 grams) among births to women under 20 was 9.0%, stable from 8.9% in 1998.
- ✓ The occurrence of low birthweight (LBW) among teens continued to differ across race/Hispanic ethnicity groups. In 1999, the percentage of LBW infants among births to teens was 8.0% for white non-Hispanic teen mothers, 11.3% for black non-Hispanics, 9.3% for Hispanics, and 11.6% for Asians.
- ✓ The percentage of low birthweight births among births to teens was 30.4% higher than it was for births to adult women (9.0% vs. 6.9%). This ratio varied by race/Hispanic ethnicity. Low birthweight among births to black non-Hispanic teens in 1999 was 8.1% lower than among births to black non-Hispanic adults (11.3% vs. 12.3%). Low birthweight among white non-Hispanic teens was 25.0% higher than among white non-Hispanic adult women (8.0% vs. 6.4%), while Asian teens had a 63.4% higher percentage of low birthweight births compared with their adult counterparts (11.6% vs. 7.1%).
- ✓ In 1999, very low birthweight was still marginally more common among births to teens (<20 years) than among births to older women (1.8% vs. 1.4%). Among teen births, very low birthweight was highest among births to black non-Hispanic mothers (2.5%).
- ✓ The incidence of preterm birth (< 37 weeks gestation) continued to be higher among teen births than among births to older women (8.8% vs. 7.5%). The gap between the two groups remained essentially unchanged during the past year (1.0% in 1998 compared to 1.3% in 1999).

Prenatal Care

- ✓ As in previous years, women under 20 were less likely than women over 20 to receive adequate prenatal care (59.2% vs. 80.9%), as well as prenatal care during the first trimester (64.7% vs. 85.7%).

- ✓ A higher percentage of white non-Hispanic and Hispanic teens received adequate prenatal care (60.4% and 60.1% respectively) compared with other race/Hispanic ethnicity groups. Asian teen mothers had the lowest percentage (47.2%), although the percentage has increased 30.4% since 1998 (36.2%).

Cesarean Sections

- ✓ C-Sections were less common among teen mothers than adult mothers (12.8% vs. 23.1%). The percentage for teen mothers remained stable from 1998 to 1999 (12.4% vs. 12.8%), while the percentage for adult mothers rose from 21.5% to 23.1%.

Breastfeeding

- ✓ Breastfeeding or an intention to breastfeed was reported by over half of the teen mothers (57.9%) compared with nearly three-quarters (73.0%) of older mothers. The intention to breastfeed varied widely among race/Hispanic ethnicity groups.
- ✓ The percentage of teen mothers who reported breastfeeding or an intention to breastfeed increased between 1998 and 1999 for all race/Hispanic ethnic groups except black non-Hispanic teen mothers. The overall rate increased from 55.6% to 57.9%. The most dramatic change occurred among Asian teen mothers, increasing from 47.8% in 1998 to 56.7% in 1999.
- ✓ Hispanic teen mothers continued to have the highest percentage of breastfeeding or intention to breastfeed in 1999. This percentage has consistently remained higher than 50% over the last six years. While all groups have shown an increase in the percentage of mothers breastfeeding, Asian teen mothers have shown the largest increase over the last six years (26.1% to 56.7%).

Infant Mortality³

- ✓ As in previous years, the 1998 infant mortality rate (IMR) was higher among births to teen mothers compared to births to adult mothers. This difference, however, increased slightly between 1997 and 1998, as the IMR among births to adults dropped from 4.9 to 4.7 deaths per 1,000 live births, while the IMR for births to teens increased from 6.9 to 7.3.
- ✓ In 1998, the IMR was higher among births to teen mothers compared to births to adult mothers among all race/Hispanic ethnicity categories except black non-Hispanics.

³ 1998 is the latest year that infant mortality data by mother's age are available. Infant mortality data that is not age-specific (i.e. infant mortality among births to mothers of *all* ages) are available for 1999. (See Technical Notes for further explanation).

- ✓ The IMR among births to teen mothers dropped considerably among black non-Hispanic teens in 1998 following two years of increased rates. Between 1997 and 1998, the IMR among births to black non-Hispanic teen mothers dropped 36.5% from 14.8 to 9.4 deaths per 1,000 live births.
- ✓ The infant mortality rate (IMR) in Massachusetts remained much lower than the national average among both teen and adult mothers. The IMR among Massachusetts teen births in 1998 was 28.4% lower than the IMR among U.S. teen births (7.3 vs. 10.2 deaths per 1,000 live births). Similarly, the IMR among Massachusetts adult births was 29.9% lower than the national IMR among older mothers (4.7 vs. 6.7 deaths per 1,000 live births).
- ✓ The IMR increased dramatically as birthweight declined among both teen and adult mothers in 1998. The IMR among very low birthweight births (<1,500 grams) for adult mothers was 223.6 per 1,000 live births compared to 9.6 per 1,000 live births among moderately low birthweight births (1,500 to 2,499 grams). Similarly, among teen mothers, the IMR for very low birthweight births was 203.5 compared to 24.4 for moderately low birthweight births.

Smoking during Pregnancy

- ✓ As in 1998, teen mothers reported much higher rates of smoking during pregnancy in 1999 than adult mothers (20.3% vs. 9.9%).
- ✓ Among teen mothers, white non-Hispanic women had the highest prevalence of smoking (30.6%), dramatically higher than their adult counterparts (10.8%). Asian teen mothers had the lowest prevalence of smoking (8.4%).
- ✓ In 1999, teen mothers reported a five year low in the percentage of mother's who smoked during pregnancy. From 1995 to 1999, the percent of women under 20 who smoked during pregnancy decreased 5.6% (from 21.5% to 20.3%).
- ✓ Overall, the fewer cigarettes mothers smoked *prior* to pregnancy, the more likely they were to quit or reduce their level of smoking *during* pregnancy. This pattern was found across all groups. Both teen and adult women had similar rates of quitting during pregnancy.

Expected Educational Attainment

- ✓ In 1999, 31.7% of births to teens (< 20 years of age) were to women who were behind their expected grade level at school.
- ✓ Among race/Hispanic ethnic groups, Hispanic teen mothers were most likely to be behind their expected grade level (40.1%), followed by Asian teen mothers (30.7%) and white non-Hispanic teen mothers (29.5%).

- ✓ From 1997 to 1999, among all race/Hispanic ethnicity groups, the percentage of teen mothers who were behind their expected grade level increased 6.7% (29.7% to 31.7%). Black non-Hispanics had the greatest increase, 18.0% (from 17.8% to 21.0%) followed by white non-Hispanics, 10.9% (from 26.6% to 29.5%).

III. Birth Characteristics for Selected Massachusetts Communities

- ✓ Statewide data can mask variation among individual communities. Each year the 25 cities and towns with the greatest number of births to teen mothers ages 15-19 are ranked by birth rate.

Community Birth Rates⁴

- ✓ The five Massachusetts communities with the highest teen birth rates in 1999 were Chelsea (107.5 births per 1,000 Chelsea women ages 15-19 years), Lawrence (103.9), Holyoke (100.5), Springfield (86.7), and Southbridge (74.0).

Low Birthweight (LBW)

- ✓ The statewide percentage of teen mothers delivering with low birthweight was 9.0%. Among the communities with the greatest number of teen births, the five communities with the highest percentages of low birthweight for teen mothers were Leominster (13.3%), Chicopee (12.5%), Pittsfield (12.5%), Haverhill (11.8%), and Quincy (11.4%).

Adequacy of Prenatal Care

- ✓ Overall, the statewide percentage of teen mothers receiving adequate prenatal care was 59.2%. Among the communities with the greatest number of teen births, the five communities with the lowest percentages of adequate prenatal care for teen mothers were Pittsfield (39.6%), Lawrence (45.4%), Brockton (46.2%), Chelsea (50.0%), and Worcester (50.0%).

Previous Live Births (Parity)

- ✓ The statewide percentage of births to teen mothers who had at least one previous live birth was 16.3%. Among the 25 communities with the greatest number of teen births, the percentages of births among teens who had at least one previous live birth were highest in Holyoke (30.2%), Springfield (25.8%), Fitchburg (23.4%), Cambridge (22.7%), and Worcester (22.2%).

⁴ Due to a revised estimation of the population count for 1991-1997, the teen birth rates for these years have been re-calculated. Therefore, the 1991-1997 teen birth rates published in prior reports should not be compared to this report.

Expected Educational Attainment

- ✓ Among the 25 communities with the greatest number of teen births, the percentages of teen mothers who were one or more school grades behind were highest in Holyoke (52.7%), Pittsfield (45.8%), Chelsea (45.7%), Lowell (44.5%), and Somerville (43.8%). Overall, the statewide percentage of teen mothers behind grade level was 31.7%.

In-Hospital Paternity Acknowledgment

- ✓ In 1999, the state percentage of teen births for which paternity was acknowledged in-hospital was 65.8%. Boston had the lowest percentage (53.8%). Somerville (55.2%), Cambridge (56.8%), Brockton (58.8%), and Lynn (58.8%) also had relatively low percentages of in-hospital paternity acknowledgment among the 25 selected communities.

IV. Birth Characteristics for all 351 Communities and the 27 Community Health Network Areas (CHNA)

In this section, the following statistics are presented for each of the 351 cities/towns in Massachusetts and for each of the 27 CHNAs: the number of all births, the number of teen births by mother's age (< 18 years and < 20 years), the number of births among teen mothers (< 20 years) who started prenatal care in the first trimester, and the number whose prenatal care was paid for with public funds. Additionally, a table presents the percent of teen and adult mothers who smoked during pregnancy for each of the 27 CHNAs. The Community Health Network Areas aggregate all Massachusetts cities and towns into 27 groups for the purpose of tracking health status and implementing health improvement efforts. The community groupings were modified in 1996 and the data here reflect the new groupings (see Appendix for most recent CHNA city/town groupings).

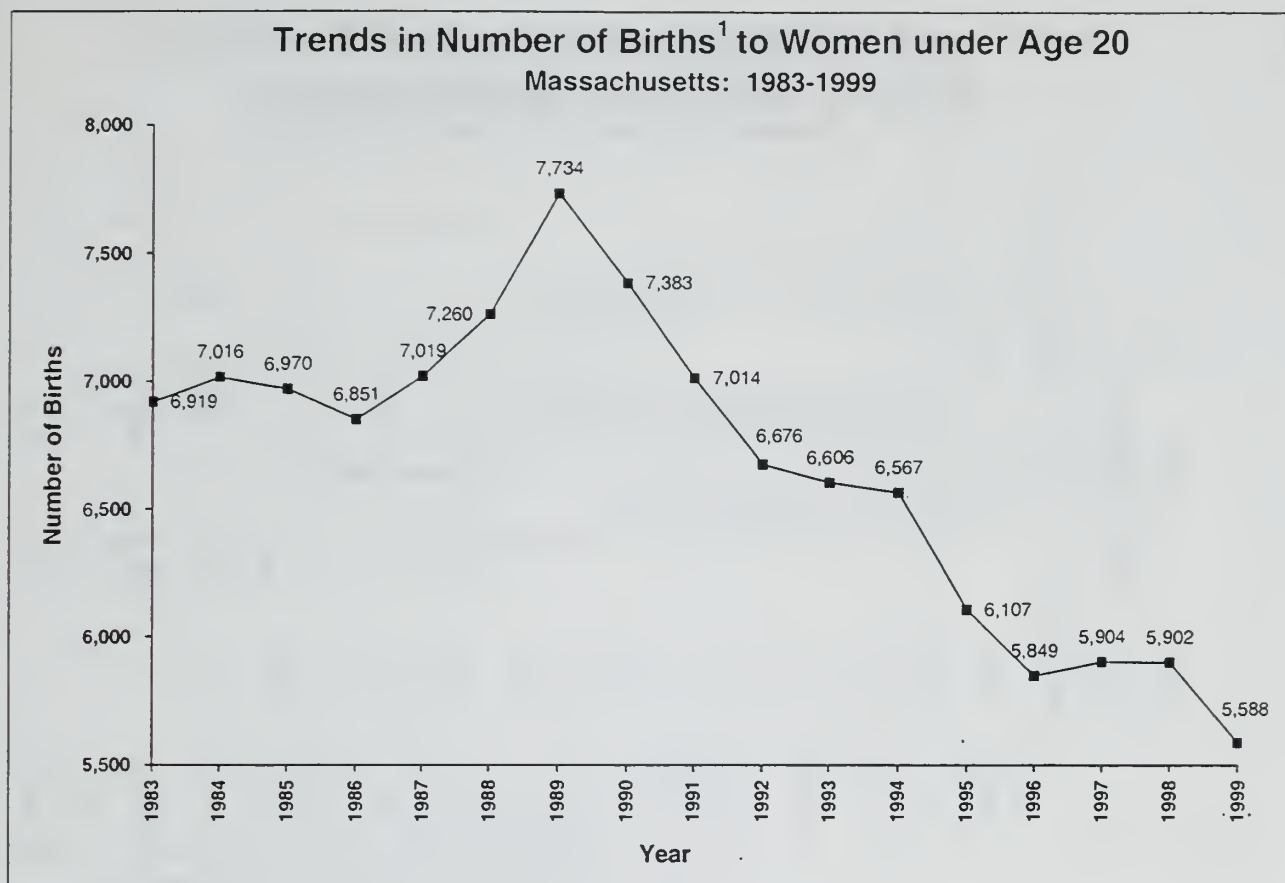
Conclusions

- ✓ The overall teen birth rate dropped slightly between 1998 and 1999.
- ✓ The Massachusetts teen birth rate remains considerably lower than the U. S. rate
- ✓ Among race/Hispanic ethnicity groups, disparities continue to exist in perinatal indicators, but there have been improvements in many measures.
- ✓ There continue to be Massachusetts communities which require special attention.
- ✓ Overall, teen mothers had more adverse outcomes (low birthweight, higher infant death) than adult women, reflecting an increased risk associated with adolescent maternity.

I.

*Demographic
and Birth
Characteristics*

Figure 1.

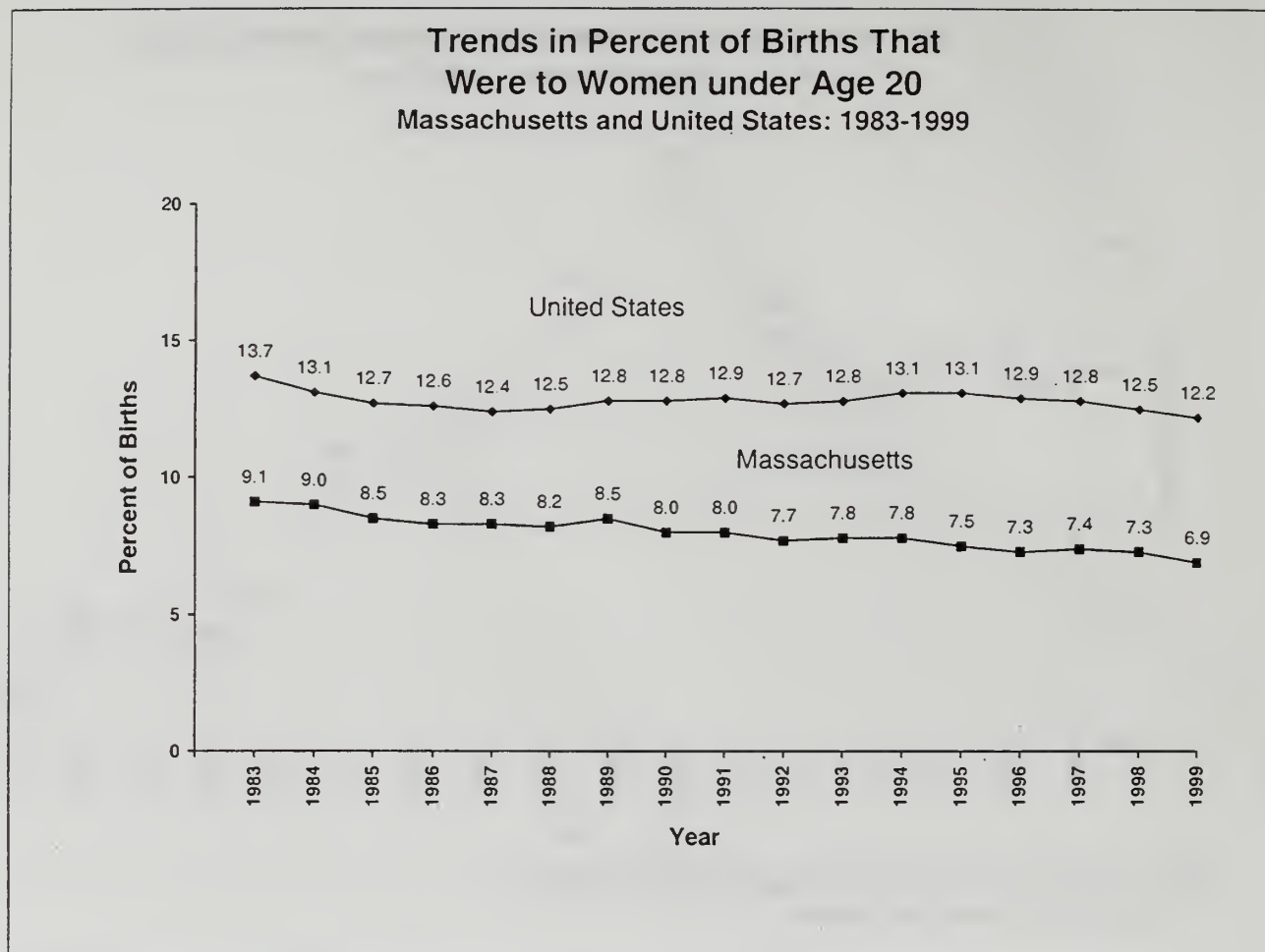


Source: Registry of Vital Records and Statistics, MDPH, 1983-1999

¹ Live births to Massachusetts residents

- The total number of births to women in Massachusetts in 1999 was 80,866 (data not shown).
- In 1999, 5,588 infants were born to women under age 20, a decrease of 314 births from the previous year. 1999 had the lowest number of teen births in the past two decades.
- Since its peak in 1989, the number of births to teens has declined by 27.7%. Despite this sharp decline over the period, the number of teen births in Massachusetts remained relatively stable between 1996 and 1998 before dropping considerably in 1999.

Figure 2.

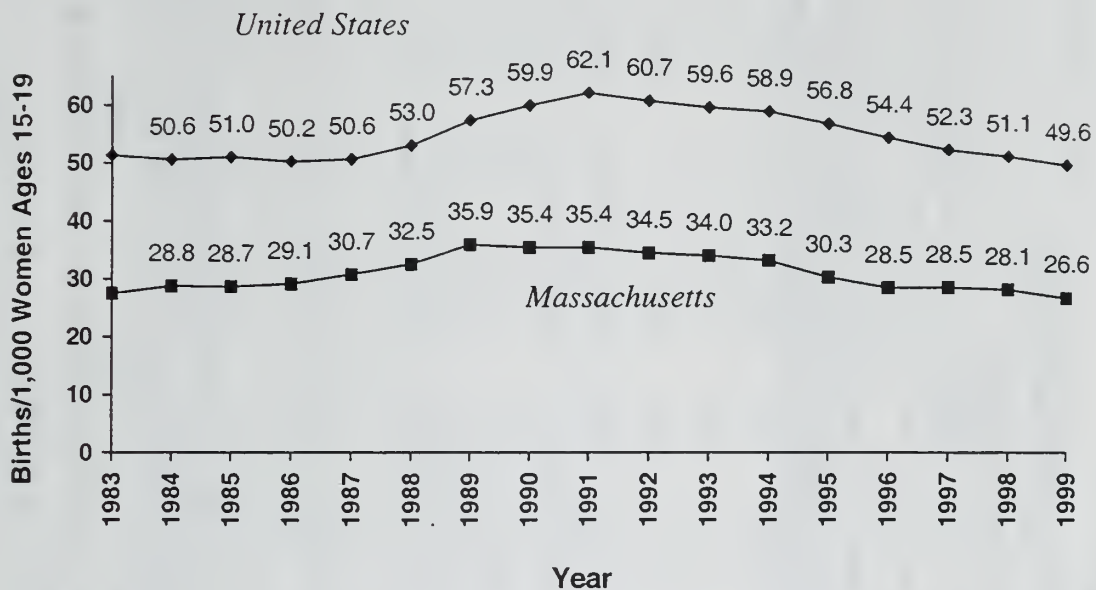


Sources: Registry of Vital Records and Statistics, MDPH, 1983-1999;
National Center for Health Statistics (NCHS). 1983-1999

- In 1999, only 6.9% of all births in Massachusetts were to women under age 20, compared to 7.3% in 1998.
- Since 1983, the percentage of births that were to women under 20 has decreased 24.2% from 9.1% to 6.9%, with 1999 representing the lowest percentage in that time period.
- The national percentage of births to teen mothers remained level between 1998 (12.3%) and 1999 (12.2%). While the national percentage, as in Massachusetts, also represented the lowest percentage between 1983-1999, the national percentage continues to be substantially higher than the percentage for Massachusetts (12.2% vs. 6.9%).

Figure 3.

Trends in Birth Rates¹ among Women Ages 15-19 Massachusetts and United States: 1983-1999



Sources: Registry of Vital Records and Statistics, MDPH, 1983-1999;
National Center for Health Statistics (NCHS), 1983-1999

¹ Number of births per 1,000 women ages 15-19

² Data from 1998 was recalculated per 1998 population estimates (see Technical Notes).

- The 1999 Massachusetts teen birth rate was 26.6 births per 1,000 women ages 15-19. This represents a decrease from 28.1 births per 1,000 women ages 15-19 in 1998. Following its high in 1989, the teen birth rate for Massachusetts has declined 25.9%.
- Although the Massachusetts teen birth rate remains substantially lower than the national teen birth rate (26.6% to 49.6% in 1999), the national rate has dropped more steadily in recent years while the Massachusetts rate has remained relatively constant.

Table 1.
Trends in Teen Births by Mother's Age
Massachusetts: 1994-1999

Mother's Age	1994		1995		1996		1997		1998		1999	
	N	%	N	%	N	%	N	%	N	%	N	%
12-19	6,567	100.0	6,107	100.0	5,849	100.0	5,904	100.0	5,902	100.0	5,588	100.0
12-13	24	0.4	19	0.4	11	0.2	19	0.3	14	0.2	10	0.2
14	131	2.0	98	2.0	80	1.4	84	1.4	65	1.1	63	1.1
15	371	5.6	356	5.6	342	5.8	290	4.9	271	4.6	244	4.4
16	822	12.5	721	12.5	687	11.7	694	11.8	663	11.2	570	10.2
17	1,244	18.9	1,203	18.9	1,115	19.1	1,121	19.0	1,120	19.0	1,039	18.6
18	1,758	26.8	1,648	26.8	1,666	28.5	1,613	27.3	1,710	29.0	1,679	30.0
19	2,217	33.8	2,062	33.8	1,948	33.3	2,083	35.3	2,059	34.9	1,983	35.5

Source: Registry of Vital Records and Statistics, MDPH: 1994-1999

- In 1999, 65.5% of all teen births occurred among women ages 18-19 years, 33.2% among women ages 15-17 years, and 1.3% among women under age 15.
- Over the last six years, the age distribution of teen women giving birth has remained relatively unchanged, with age and number of births being directly related. However, slight decreases in the number of births have occurred in the 14, 15, and 16 year old range.
- There were no increases in the number of births from 1998 to 1999 among the age categories, and the largest decrease in teen births occurred among teen women aged 16, a decrease of 93 births.

Table 2.
Trends in Teen Births¹ by Mother's Race/Hispanic Ethnicity
Massachusetts: 1994-1999

Mother's Race/Ethnicity	1994		1995		1996		1997		1998		1999	
	N	%	N	%	N	%	N	%	N	%	N	%
Total	6,567	100.0	6,107	100.0	5,849	100.0	5,904	100.0	5,902	100.0	5,588	100.0
White*	3,303	50.3	3,209	52.5	2,952	50.5	2,865	48.5	2,953	50.0	2,686	48.1
Black*	997	15.2	865	14.2	810	13.8	794	13.4	745	12.6	719	12.9
Hispanic	1,950	29.7	1,727	28.3	1,722	29.4	1,807	30.6	1,775	30.1	1,746	31.2
Asian*	188	2.9	163	2.7	164	2.8	214	3.6	185	3.1	215	3.8
Other*	126	1.9	134	2.2	155	2.7	205	3.5	239	4.0	218	3.9
Unknown	3	**	9	0.1	46	0.8	19	0.3	5	0.1	4	**

Source: Registry of Vital Records and Statistics, MDPH: 1994-1999

* Non-Hispanic

** Calculations based on 1-4 events are excluded.

¹ Births to teens ages 12-19

- In 1999, a six-year low of 48.1% of all teen births (<20 years of age) were to teen women whose race/Hispanic ethnicity was white non-Hispanic. Teen births to white non-Hispanic women, however, continue to account for the largest proportion of all teen births.
- Over the six-year period from 1994 to 1999, among all teen mothers, the percentage of infants born to black non-Hispanic women has decreased from 15.2% to 12.9%, while the percentage of infants born to Hispanic teen women has increased from 29.7% to 31.2%. The actual number of births to Hispanic teen mothers, however, has declined 10.4% (1,950 to 1,746) since 1994.
- Asian mothers continue to account for only a small percentage (3.9% in 1999) of all teen births. This percentage has increased slightly since 1994 (2.9%), as has the actual number of births to Asian teens.

Table 3.
Teen Births by Mother's Age and Race/Hispanic Ethnicity
Massachusetts: 1999

Mother's Age	White*		Black*		Hispanic		Asian*		Other*		Unknown		Total	
	N	% ¹	N	% ¹	N	% ¹	N	% ¹	N	% ¹	N	% ¹	N	% ¹
< 20	2,686	100.0	719	100.0	1,746	100.0	215	100.0	218	100.0	4	**	5,588	100.0
18-19	1,900	70.7	451	62.7	1,037	59.4	129	60.0	143	65.6	2	**	3,662	65.5
16-17	696	25.9	211	29.3	566	32.4	70	32.6	64	29.4	2	**	1,609	28.8
12-15	90	3.4	57	7.9	143	8.2	16	7.4	11	5.0	0	0.0	317	5.7

Source: Registry of Vital Records and Statistics, MDPH, 1999

* Non-Hispanic

** Calculations based on 1-4 events are excluded.

¹ Percents are based on column totals. Percentages may not add up to 100 due to rounding.

- Births to white non-Hispanic teen women most often occurred within the 18-19 year old age category, 70.7% of all teen births for that race. Other race/Hispanic ethnic groups showed a lower proportion of teen births in the 18-19 year old age category; black non-Hispanic (62.7%), Hispanic (59.4%), and Asian (60.0%).
- Teen births to women under age 18 remained the lowest among white non-Hispanic women accounting for 29.3% of all teen births for that group. The births to women under age 18 accounted for 37.2% of all teen births for black non-Hispanic mothers, 40.0% of all teen births for Asian mothers, and 40.6% of all teen births for Hispanic mothers.
- Overall, the percentage of teen births to women in the 12-15 year age range decreased by 3.4% between 1998 and 1999 (from 5.9% to 5.7%), with the highest decline among Asian teens at 31.5% (from 10.8% to 7.4%), followed by Hispanic teens at 11.8% (from 9.3 to 8.2). The percentage of teen births to black non-Hispanics in the 12-15 age category increased 12.9% (from 7.0% to 7.9%) between 1998 and 1999 (1998 data not shown).

Table 4.
Births by Mother's Race/Hispanic Ethnicity and Age: Massachusetts: 1999

Mother's Race/Ethnicity	Under 18 Years		18 to 19 Years		Under 20 Years		20 Years & Older		All Ages	
	N	% ₂	N	% ₂	N	% ₂	N	% ₂	N	% ₂
Total Births	1,926	100.0	3,662	100.0	5,588	100.0	75,278	100.0	80,866	100.0
White	786	40.8	1,900	51.9	2,686	48.1	57,716	76.7	60,402	74.7
Black	268	13.9	451	12.3	719	12.9	5,125	6.8	5,844	7.2
African-American	203	10.5	308	8.4	511	9.1	2,321	3.1	2,832	3.5
West Indian	18	0.9	32	0.9	50	0.9	537	0.7	587	0.7
Haitian	6	0.3	42	1.1	48	0.9	945	1.3	993	1.2
Other Black	41	2.1	409	1.9	671	2.0	1,322	1.8	1,432	1.8
Hispanic	709	36.8	1,037	28.3	1,746	31.2	7,069	9.4	8,815	10.9
Puerto Rican	545	28.3	693	18.9	1,238	22.2	3,180	4.2	4,418	5.5
Dominican	73	3.8	142	3.9	215	3.8	1,340	1.8	1,555	1.9
Salvadoran	18	0.9	61	1.7	79	1.4	579	0.8	658	0.8
Central Amer.	24	1.2	42	1.1	66	1.2	653	0.9	719	0.9
Other Hispanic	49	2.5	99	2.7	148	2.6	1,317	1.7	1,465	1.8
Asian	86	4.5	129	3.5	215	3.8	3,923	5.2	4,138	5.1
Vietnamese	13	0.7	31	0.8	44	0.8	631	0.8	675	0.8
Cambodian	50	2.6	64	1.7	114	2.0	416	0.6	530	0.7
Chinese	1	**	9	0.2	10	0.2	1,155	1.5	1,165	1.4
Other Asian	22	1.1	25	0.7	47	0.8	1,721	2.3	1,768	2.2
Other	75	3.9	143	3.9	218	3.9	1,259	1.7	1,477	1.8
Unknown	2	**	2	**	4	**	186	0.2	190	0.2

Source: Registry of Vital Records and Statistics, MDPH, 1999

** Calculations based on 1-4 events are excluded.

Percentages may not add up to 100 due to rounding.

- The number of births to women among teen and adult mothers differed substantially by race/Hispanic ethnicity. White non-Hispanic women accounted for 48.1% of all teen births and 76.7% of all births to mothers 20 years of age and older. Conversely, births to Hispanic women accounted for 31.2% of all teen births but only 9.4% of births to adult mothers.
- The number of births for teen mothers under 18 was highest among white non-Hispanic women accounting for 40.8% of all births in that age group, followed by the Hispanic (36.8%), black non-Hispanic (13.9%), and Asian (4.5%) categories.
- The number of births also varied substantially within specific ethnic subgroups. More than one in five teen births (mothers under 20 years old) were to Puerto Rican women (22.2%). Puerto Rican women similarly accounted for the largest proportion of all Hispanic teen births (71.2%), remaining stable from 1998 (71.3%). Cambodian women accounted for 53.0% of Asian births to mothers less than 20 years of age.

Table 5.
Births by Mother's Age, Place of Birth, and Race/Hispanic Ethnicity
Massachusetts: 1999

	Under 20 Years						20 Years and Older					
	U.S. States/D.C.		U.S. Territories ¹		Non U.S. Born		U.S. States/D.C.		U.S. Territories ¹		Non U.S. Born	
	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²
Total Births	4,248	76.0	550	9.8	790	14.1	58,609	77.9	1,705	2.3	14,964	19.9
White*	2,567	95.6	1	**	118	4.4	52,876	91.6	40	0.1	4,800	8.3
Black*	607	84.4	1	0.1	111	15.4	2,783	54.3	13	0.3	2,329	45.4
Cape Verdean	12	48.0	0	0.0	13	52.0	58	35.8	0	0.0	104	64.2
Haitian	10	20.8	0	0.0	38	79.2	23	2.4	0	0.0	922	97.6
West Indian/Caribbean	14	28.0	1	**	35	70.0	45	8.4	7	1.3	485	90.3
African American	499	97.7	0	0.0	12	2.3	2,227	96.0	6	0.3	88	3.8
African	4	**	0	0.0	9	69.2	9	1.4	0	0.0	645	98.6
Other Black	68	94.4	0	0.0	4	**	421	83.2	0	0.0	85	16.8
Hispanic	867	49.7	546	31.3	333	19.1	2,018	28.5	1,643	23.2	3,408	48.2
Puerto Rican	684	55.3	544	43.9	10	0.8	1,482	46.6	1,630	51.3	68	2.1
Dominican	63	29.3	1	**	151	70.2	127	9.5	7	0.5	1,206	90.0
Salvadoran	4	**	0	0.0	75	94.9	6	1.0	0	0.0	573	99.0
Other Central American	12	18.2	1	1.5	53	80.3	32	4.9	1	**	620	94.9
Other Hispanic	104	70.3	0	0.0	44	29.7	371	28.2	5	0.4	941	71.5
Asian*	54	25.1	0	0.0	161	74.9	280	7.1	4	**	3,639	92.8
Chinese	2	**	0	0.0	8	80.0	121	10.5	1	**	1,033	89.4
Vietnamese	8	18.2	0	0.0	36	81.8	2	**	0	0.0	629	99.7
Cambodian	21	18.4	0	0.0	93	81.6	2	**	0	0.0	414	99.5
Other Asian	23	48.9	0	0.0	24	51.1	155	9.0	3	**	1,563	90.8
Other	149	68.3	2	**	67	30.7	496	39.4	4	**	759	60.3
Unknown	4	**	0	0.0	0	0.0	156	83.9	1	**	29	15.6

Source: Registry of Vital Records and Statistics, MDPH, 1999

* Non-Hispanic

** Calculations based on 1-4 events are excluded.

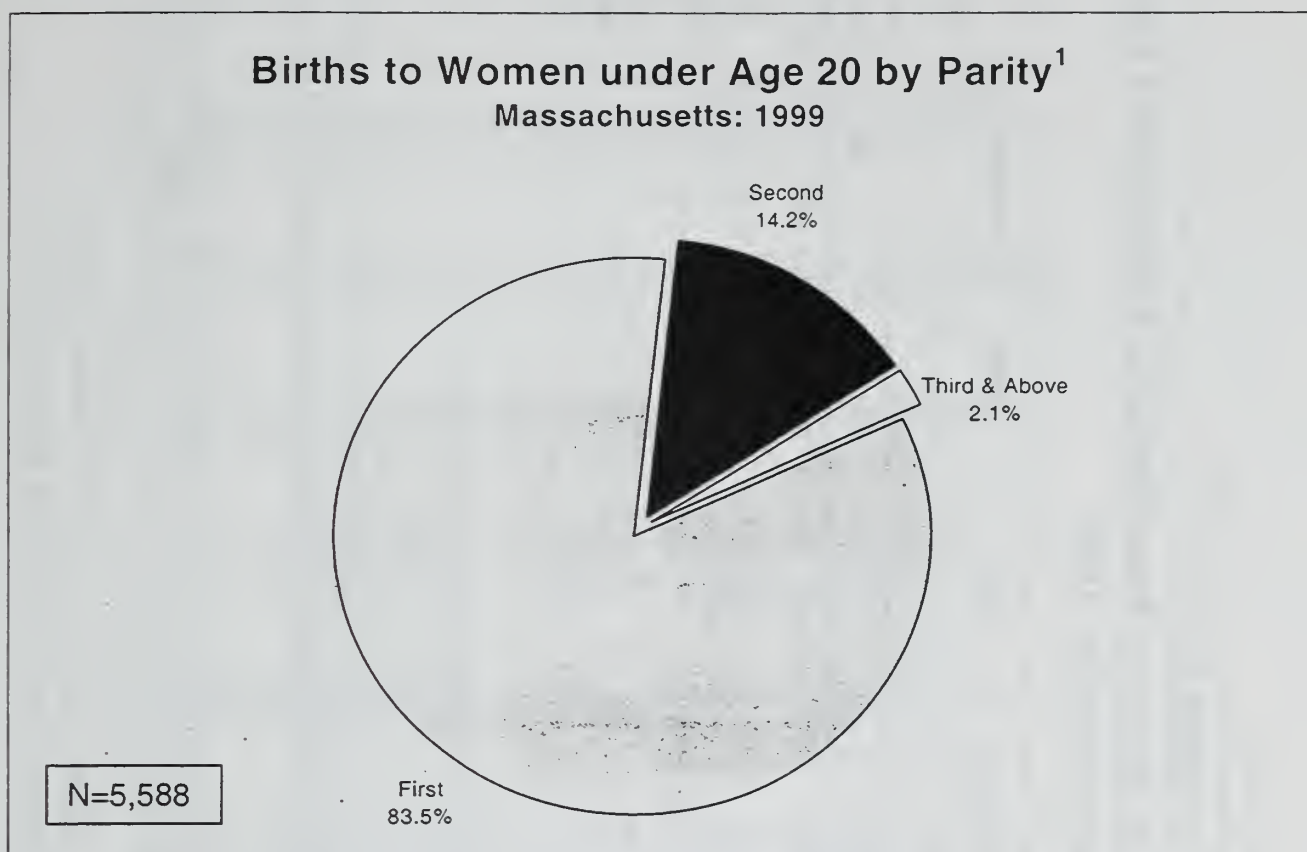
¹ U.S. Territories includes Puerto Rico, the U.S. Virgin Islands and Guam.

² Percentages are based on known maternal country of origin; percentages are calculated on row totals within each age category.

³ Unknown: Mothers who did not indicate a race/ethnicity

- In 1999, 76.0% of all teen mothers were born within the United States or the District of Columbia; among older mothers (20 years and older), there was a slightly higher percentage (77.9%).
- A higher proportion of teen mothers were born within U.S. territories (9.8%) compared to adult mothers (2.3%).
- The percentage of mothers born outside the U.S. varied by race/Hispanic ethnicity within each maternal age group. Among teen births, the majority of black non-Hispanic mothers (84.4%) were born in the U.S., in contrast to Asian teen mothers, where a much smaller percentage (25.1%) were born in the U.S. Among older mothers 54.3% of black non-Hispanic mothers and 7.1% of Asian mothers were born in the U.S.
- Approximately one in three (31.3%) Hispanic teen mothers were born within US territories, compared to 23.2% of older Hispanic mothers. Regardless of age, there was considerable variation in the proportion of mothers born outside the U.S. across ethnic subgroups.

Figure 4.



Source: Registry of Vital Records and Statistics, MDPH; 1999

¹ Parity: The number of live infants ever born to the mother. Parity includes all previous live births as well as the infant named on the birth certificate.

- In 1999, 14.2% of teen births were to mothers with one prior live birth and 2.1% of teen births were to mothers with two or more prior live births. A total of 16.3% of teen births were to mothers with prior births. These figures showed little change from 16.5% in 1998 (data not shown).

Table 6.
Births to Multiparous¹ Mothers by Mother's Race/Hispanic Ethnicity and Age
Massachusetts: 1999

Multiparous Mother's Age	White*		Black*		Hispanic		Asian*		Other*		Unknown		Total	
	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²
All Ages	33,401	55.3	3,564	61.0	5,236	59.4	1,985	48.0	798	54.0	38	20.0	45,022	55.7
20 +	33,072	57.3	3,431	66.9	4,853	68.7	1,949	49.7	768	61.0	37	19.9	44,110	58.6
<20	329	12.2	133	18.5	383	21.9	36	16.7	30	13.8	1	**	912	16.3
18-19	295	15.5	116	25.7	299	28.8	29	22.5	24	16.8	0	0	763	20.8
12-17	34	4.3	17	6.3	84	11.8	7	8.1	6	8.0	1	**	149	7.7

Source: Registry of Vital Records and Statistics, MDPH, 1999

* Non-Hispanic

** Calculations based on 1-4 events are excluded.

¹ Multiparous women have had at least one previous live birth.

² Percentages are based on the total number of births in each race/Hispanic ethnicity-age group (data not shown).

- The percentage of teen mothers who had at least one prior live birth remained stable between 1998 (16.5%) and 1999 (16.3%). Among the younger teen mother category (ages 12-17), the percentage of multiparous mothers dropped from 8.6% in 1998 to 7.7% in 1999 (1998 data not shown).
- In 1999, among women ages 18-19, 28.8% of births to Hispanic women, 25.7% of births to black non-Hispanic women, 16.8% of births to Asian women, and 15.5% of births to white non-Hispanic women were to mothers who already had at least one live birth.

Table 7. Births by Mother's Race/Hispanic Ethnicity, Age, and Prenatal Care Payment Source: Massachusetts: 1999

Mother's Race/Ethnicity	12 to 17 Years		18 to 19 Years		Under 20 Years		20 Years & Older		All Ages	
	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²
Total Births	1,926	100.0	3,662	100.0	5,588	100.0	75,278	100.0	80,866	100.0
Public	1,363	70.8	2,636	72.0	3,999	71.6	17,198	22.8	21,197	26.2
Private	86	4.5	142	3.9	228	4.1	8,473	11.3	8,701	10.8
HMO	423	22.0	772	21.1	1,195	21.4	47,217	62.7	48,412	59.9
Other	54	2.8	112	3.1	166	3.0	2,390	3.2	2,556	3.2
White	786	100.0	1,900	100.0	2,686	100.0	57,716	100.0	60,402	100.0
Public	451	57.4	1,155	60.8	1,606	59.8	8,184	14.2	9,790	16.2
Private	44	5.6	99	5.2	143	5.3	7,097	12.3	7,240	12.0
HMO	261	33.2	560	29.5	821	30.6	40,509	70.2	41,330	68.4
Other	30	3.8	86	4.5	116	4.3	1,926	3.3	2,042	3.4
Black	268	100.0	451	100.0	719	100.0	5,125	100.0	5,844	100.0
Public	187	69.8	361	80.0	548	76.2	2,762	53.9	3,310	56.6
Private	18	6.7	13	2.9	31	4.3	370	7.2	401	6.9
HMO	56	20.9	67	14.9	123	17.1	1,899	37.1	2,022	34.6
Other	7	2.6	10	2.2	17	2.4	94	1.8	111	1.9
Hispanic	709	100.0	1,037	100.0	1,746	100.0	7,069	100.0	8,815	100.0
Public	609	85.9	909	87.7	1,518	86.9	4,639	65.6	6,157	69.8
Private	19	2.7	18	1.7	37	2.1	404	5.7	441	5.0
HMO	68	9.6	101	9.7	169	9.7	1,888	26.7	2,057	23.3
Other	13	1.8	9	0.9	22	1.3	138	2.0	160	1.8
Asian	86	100.0	129	100.0	215	100.0	3,923	100.0	4,138	100.0
Public	61	70.9	101	78.3	162	75.3	928	23.7	1,090	26.3
Private	2	**	3	**	5	2.3	501	12.8	506	12.2
HMO	21	24.4	22	17.1	43	20.0	2,422	61.7	2,465	59.6
Other	2	**	3	**	5	2.3	72	1.8	77	1.9
Other	75	100.0	143	100.0	218	100.0	1,259	100.0	1,477	100.0
Public	54	72.0	109	76.2	163	74.8	672	53.4	835	56.5
Private	3	**	9	6.3	12	5.5	95	7.5	107	7.2
HMO	17	22.7	22	15.4	39	17.9	458	36.4	497	33.6
Other	1	**	3	**	4	**	34	2.7	38	2.6
Unknown	2	**	2	**	4	**	186	100.0	190	100.0
Public	1	**	1	**	2	**	13	7.0	15	7.9
Private	0	0.0	0	0.0	0	0.0	6	3.2	6	3.2
HMO	0	0.0	0	0.0	0	0.0	41	22.0	41	21.6
Other	1	**	1	**	2	**	126	67.7	128	67.4

Source: Registry of Vital Records and Statistics, MDPH, 1999

*Calculations based on less than 5 events are excluded.

1 Percentages are based on race/Hispanic ethnicity totals. Percentages for "Public" and "Private" do not add up to 100 because the total includes "Other" sources (i.e. Workers Compensation and Self pay. Data not shown).

2 Public: Mass Health (Medicaid), Medicare, Healthy Start, free care and other government programs. Free care was included in this category for the first time in 1997 (see Technical Notes); therefore, these data are not comparable with prior reports. Public HMO enrollees are not included in this category.

3 Private: Blue Cross/Blue Shield, other commercial insurance. Private HMO enrollees are not included in this category.

4 HMO: "HMO" may include Mass Health (Medicaid) recipients in managed care programs.

- The percentage of teen mothers whose prenatal care was supported through public funds was 71.6% in 1999. In contrast, only 22.8% of women 20 and older had their prenatal care supported through public funds in 1999. The opposite trend is present in the use of HMOs as a source of prenatal care. Only 21.4% of teen mothers in 1999 relied on HMOs as a source of prenatal care compared to 62.7% of adult mothers.
- Among teen mothers, the percentage receiving publicly funded prenatal care varied by race/Hispanic ethnicity: 59.8% of white non-Hispanic teen mothers, 76.2% of black non-Hispanic teen mothers, 86.9% of Hispanic teen mothers, and 75.3% of Asian teen mothers received publicly funded prenatal care.
- Compared with teen mothers, the percentage of adult mothers who received publicly funded prenatal care was lower within each race/Hispanic ethnicity group. The difference between teens and adults was most pronounced among Asian mothers (75.3% and 23.7%, respectively), and least pronounced among Hispanic mothers (86.9% and 65.6%, respectively).

Figure 5.

Age and Marital Status¹ of Mothers Using Public Payment Sources for Prenatal Care Massachusetts, 1999



Source: Registry of Vital Records and Statistics, MDPH, 1999

¹ Unknowns are excluded.

- In 1999, 72.3% of unmarried teen mothers and 63.9% of married teen mothers received publicly-funded prenatal care. The figure for unmarried teens increased from 69.3% in 1998 (data not shown).
- The contrast with regards to marital status was much more pronounced among adult mothers, where 66.2% of unmarried adult mothers received publicly-funded prenatal care compared to only 10.8% of married adult mothers.

Table 8.
Trends in Births to Unmarried Mothers by Age of Mother
Massachusetts: 1994-1999

Unmarried Mother's Age	1994		1995		1996		1997		1998		1999	
	N	% ¹	N	% ¹	N	% ¹	N	% ¹	N	% ¹	N	% ¹
All Ages²	22,302	26.6	20,857	25.6	20,429	25.5	20,640	25.7	21,191	26.0	21,448	26.5
20 +	16,416	21.3	15,370	20.4	15,147	20.4	15,300	20.6	15,841	21.0	16,355	21.7
< 20	5,886	89.6	5,487	89.9	5,282	90.3	5,339	90.4	5,350	90.7	5,093	91.1
18-19	3,433	86.4	3,210	86.5	3,145	87.0	3,216	87.0	3,300	87.6	3,229	88.2
12-17	2,453	94.6	2,277	95.0	2,137	95.6	2,123	95.6	2,050	96.2	1,864	96.8

Source: Registry of Vital Records and Statistics, MDPH, 1994-1999

¹ Percentages are based on total number of births within each category.

² "All Ages" includes mothers of unknown age.

- The percentage of all Massachusetts births to unmarried women has remained stable since 1994. There remains a considerable difference between the marital status of teen and adult mothers.
- The most noticeable change between 1994 and 1999 occurred among mothers in the 12-17 year age category. In 1994, 94.6% of mothers in this group were unmarried compared to 96.8% of 12-17 year old mothers in 1999.

Table 9.
Births to Unmarried Mothers by Mother's Race/Hispanic Ethnicity and Age
Massachusetts: 1999

Unmarried Mother's Age	White*		Black*		Hispanic		Asian*		Other*		Unknown		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
All Ages ¹	11,140	18.4	3,442	58.9	5,431	61.6	687	16.6	724	49.0	24	12.6	21,448	26.5
20+	8,697	15.1	2,754	53.7	3,839	54.3	514	13.1	531	42.2	20	10.8	16,355	21.7
< 20	2,443	91.0	688	95.7	1,592	91.2	173	80.5	193	88.5	4	**	5,093	91.1
18-19	1,672	88.0	424	94.0	912	87.9	96	74.4	123	86.0	2	**	3,229	88.2
12-17	771	98.1	264	98.5	680	95.9	77	89.5	70	93.3	2	**	1,864	96.8

Source: Registry of Vital Records and Statistics, MDPH, 1999

* Non-Hispanic

** Calculations based on 1-4 events are excluded.

¹ "All Ages" includes mothers of unknown age.

- The overall percentage of births to unmarried mothers of all ages varied substantially by race/Hispanic ethnicity in 1999. Among births to women of all ages, 18.4% of white non-Hispanic women were unmarried, while 58.9% of black non-Hispanic, 61.6% of Hispanic women, and 16.6% of Asian women were unmarried.
- There is considerably less variation in marital status by race/Hispanic ethnicity among teen mothers (< 20 years of age); 91.0% of white non-Hispanic teen mothers, 95.7% of black non-Hispanic, 91.2% of Hispanic, and 80.5% of Asian teen mothers were unmarried.

Table 10.
Trends in In-Hospital Paternity Acknowledgment¹ by Age of Unmarried Mother
Massachusetts: 1994-1999

Unmarried Mother's Age	1994		1995		1996		1997		1998		1999	
	N	%	N	%	N	%	N	%	N	%	N	%
All Ages ²	11,904	53.4	12,223	58.6	13,195	66.0	14,433	69.9	14,724	69.5	15,103	70.4
20+	8,944	54.5	9,251	60.2	9,939	67.1	10,906	71.3	11,253	71.0	11,751	71.8
< 20	2,960	50.3	2,972	54.2	3,256	62.8	3,526	66.0	3,471	64.9	3,352	65.8
18-19	1,785	52.0	1,833	57.1	1,999	65.0	2,199	68.4	2,210	67.0	2,180	67.5
12-17	1,175	47.9	1,139	50.0	1,257	59.7	1,327	62.5	1,261	61.5	1,172	62.9

Source: Registry of Vital Records and Statistics, MDPH, 1994-1999

¹ Paternity acknowledgment: Voluntary self-acknowledgment by fathers or acknowledgment through legal action. This table reflects data collected in hospitals, at time of birth only (see Glossary for further explanation).

² "All Ages" includes mothers of unknown age.

- The overall percentage of births to unmarried women with paternity acknowledgment in the birth hospital increased from 53.4% in 1994 to 70.4% in 1999.
- Paternity acknowledgment occurred at a lower rate among unmarried teens than among unmarried adults. In 1999, 65.8% of births to unmarried teen mothers (ages <20) and 71.8% of births to unmarried adult mothers (ages 20+) included in-hospital paternity acknowledgement.
- An increase in paternity acknowledgment for infants born to unmarried teens occurred among young teen mothers (12-17 years old) between 1998 (61.5%) and 1999 (62.9%). The percentage of paternity acknowledgment for births to older unmarried teens (18-19 year old), however, remained stable from 1998 (67.0%) to 1999 (67.5%).

Table 11.
In-Hospital Paternity Acknowledgment¹ by Unmarried Mother's
Race/Hispanic Ethnicity and Age
Massachusetts: 1999

Unmarried Mother's Age	White*		Black*		Hispanic		Asian*		Other*		Unknown		Total	
	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²
All Ages	8,603	77.2	1,885	54.8	3,690	67.9	438	63.8	473	65.3	14	58.3	15,103	70.4
20+	6,854	78.8	1,565	56.8	2,644	68.9	323	62.8	353	66.5	12	60	11,751	71.8
< 20	1,749	71.6	320	46.5	1,046	65.7	115	66.5	120	62.2	2	**	3,352	65.8
18-19	1,222	73.1	205	48.3	614	67.3	66	68.8	72	58.5	1	**	2,180	67.5
12-17	527	68.4	115	43.6	432	63.5	49	63.6	48	68.6	1	**	1,172	62.9

Source: Registry of Vital Records and Statistics, MDPH, 1999

* Non-Hispanic

** Calculations based on 1-4 events are excluded.

¹ Only includes births with in-hospital paternity acknowledgment (see Glossary for further explanation).

² Percentages are based on the total number of births to unmarried mothers within each category.

- Among women of all ages, in-hospital paternity acknowledgment varied widely by race/Hispanic ethnicity, ranging from a high of 77.2% among white non-Hispanic unmarried mothers to a low of 54.8% among black non-Hispanic unmarried mothers.
- The variation in paternity acknowledgment across race/Hispanic ethnicity groups was seen among births to both adult and teen unmarried women. Generally, however, in-hospital paternity acknowledgment was less common among younger mothers in each race/Hispanic ethnicity group. The only contradiction to this trend occurred among Asian women where in-hospital paternity acknowledgement was higher for unmarried teen mothers (66.5%) than unmarried adult mothers (62.8%).

Table 12.
Father's Age by Unmarried Mother's Age for Births with Acknowledged Paternity¹
Massachusetts: 1999

Unmarried Mother's Age	Father's Age										Total ³	
	12-15		16-17		18-19		20-24		25-29		30 and Older	
	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²
20 +	0	0.0	54	0.4	343	2.8	3,076	25.3	3,633	29.8	4,875	40.0
<20	30	0.8	380	10.2	1,028	27.5	1,536	41.1	326	8.7	135	3.6
<18	28	2.0	258	18.4	453	32.3	377	26.9	74	5.3	18	1.3
18-19	2	**	122	5.2	575	24.6	1,159	49.6	252	10.8	117	5.0
16-17	11	0.9	199	17.2	395	34.1	349	30.1	68	5.9	17	1.5
12-15	17	7.0	59	24.2	58	23.8	28	11.5	6	2.5	1	**
											244	100.0

Source: Registry of Vital Records and Statistics, MDPH, 1999

** Calculations based on 1-4 events are excluded.

¹ Only includes births with in-hospital paternity acknowledgment (see Glossary for further explanation).

² Percentages are based on the total number of fathers whose ages were identified by unmarried mothers within each category.

³ "Total" includes fathers with unknown ages.

- Among unmarried women ages 20 and older, 95.1% of the named fathers were also 20 and older. This figure remains essentially unchanged from 96.8% in 1998 (1998 data not shown). Among unmarried teens (<20 years of age), 53.4% of the named fathers were 20 and older.
- Among unmarried teen mothers ages 12-15, the percentage of named fathers who were 20 and older decreased from 17.5% in 1998 to 14.3% in 1999. Similarly, among 16-17 year old unmarried mothers, the percentage of named fathers who were 20 or older, dropped from 39.7% in 1998 to 37.4% in 1999 (1998 data not shown).

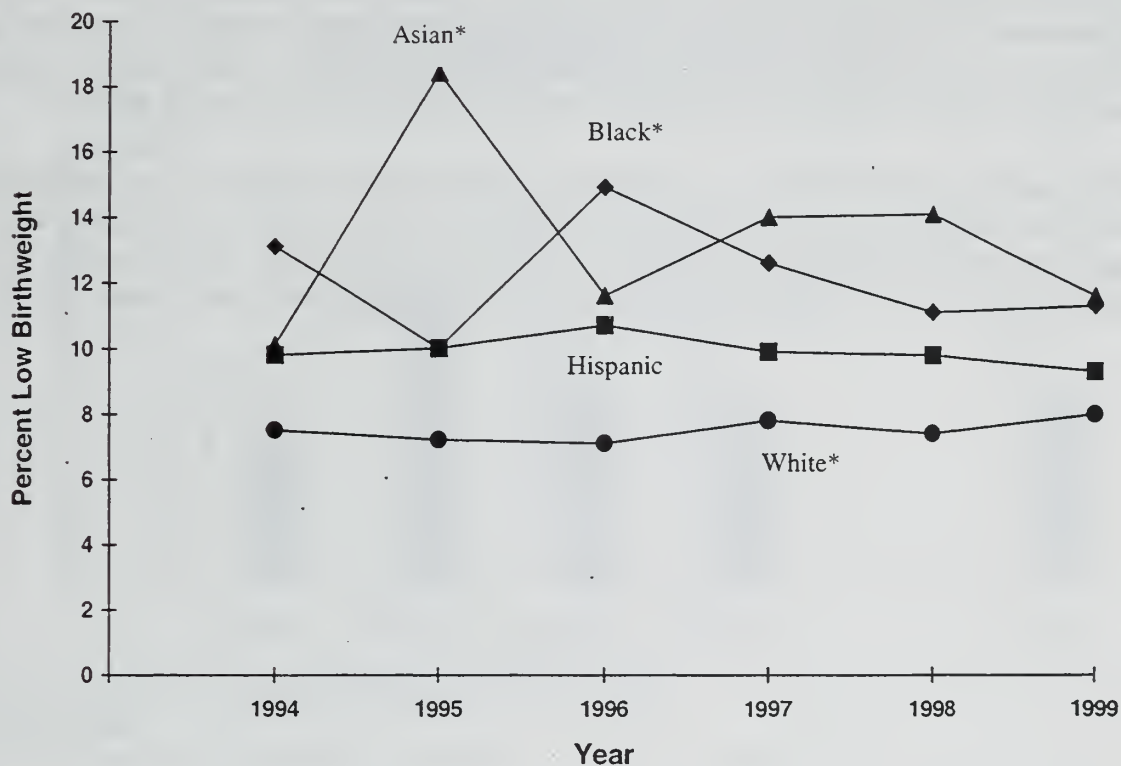
II.

*Birth Outcomes and
Prenatal Care*



Figure 6.

Trends in Percent Low Birthweight¹ among Births to Women Under Age 20 by Race/Hispanic Ethnicity Massachusetts: 1994-1999



	1994	1995	1996	1997	1998	1999
White*	7.5	7.2	7.1	7.8	7.4	8.0
Black*	13.1	10.0	14.9	12.6	11.1	11.3
Hispanic	9.8	10.0	10.7	9.9	9.8	9.3
Asian*	10.1	18.4	11.6	14.0	14.1	11.6
Total	9.1	8.6	9.4	9.5	8.9	9.0

Source: Registry of Vital Records and Statistics, MDPH, 1994-1999

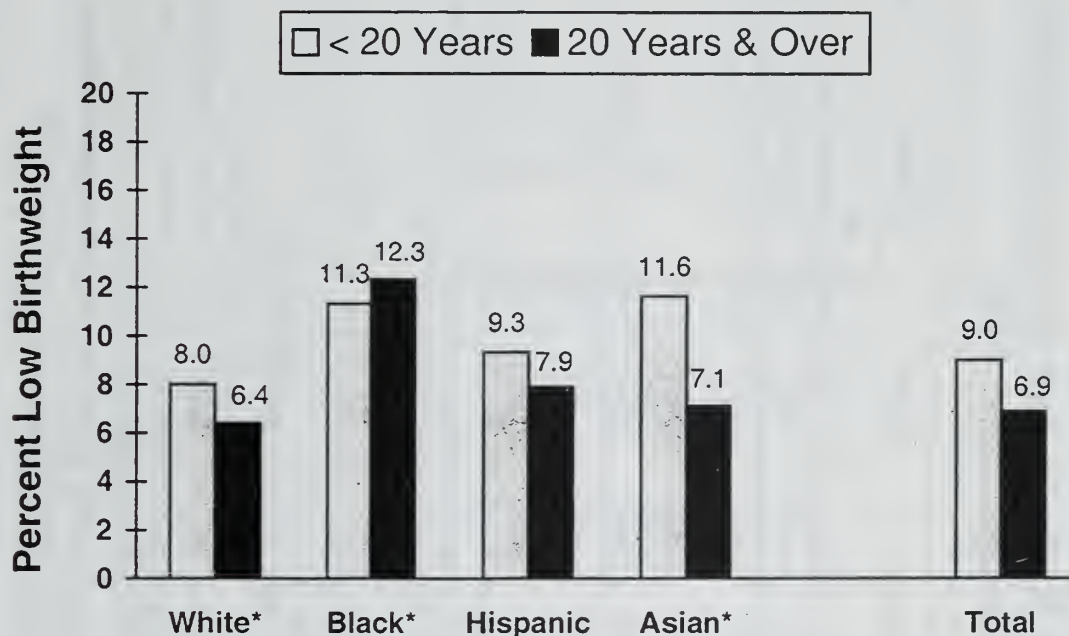
* Non-Hispanic

¹ Low birthweight: < 2,500 grams or 5.5 pounds

- In 1999, the total proportion of low birthweight births (less than 2,500 grams) among births to teens under 20 was 9.0%, approximately the same as in 1998 (8.9%).
- The occurrence of low birthweight (LBW) among teens continued to differ across race/Hispanic ethnicity groups. In 1999, the percentage of LBW infants among births to teens was 8.0% for white non-Hispanic teen mothers, 11.3% for black non-Hispanics, 9.3% for Hispanics, and 11.6% for Asians.
- In 1996, the widest gap between the percentages of LBW infants born to teens was between births to white non-Hispanic teen mothers (7.1%) and births to black non-Hispanic mothers (14.9%). This gap narrowed by 1999 as a function of an increase in LBW among white non-Hispanic teen births (to 8.0%) and a decrease among black non-Hispanic births (to 11.3%). During the same period, percentage of LBW births among Hispanic teen births decreased from 10.7% to 9.3%.
- *As the number of births to Asian teen mothers is small (n=215), their LBW percentages fluctuate widely and changes over time should be interpreted with caution.* The percentage of LBW births to Asian teen mothers decreased from 18.4% in 1995 to 11.6% in 1996. This percentage remained nearly fixed from 1997 (14.0%) to 1998 (14.1%) and then dropped again in 1999 (11.6%).

Figure 7.

Percent Low Birthweight¹ by Mother's Age and Race/Hispanic Ethnicity Massachusetts: 1999



Source: Registry of Vital Records and Statistics, MDPH, 1999

* Non-Hispanic

¹ Low birthweight: < 2,500 grams or 5.5 pounds

- The percentage of low birthweight births among teen births was 30.4% higher than it was for births to adult women (9.0% vs. 6.9%).
- This ratio varied by race/Hispanic ethnicity. Low birthweight among births to black non-Hispanic teens in 1999 was 8.1% lower than among births to black non-Hispanic adults (11.3% vs. 12.3%). Low birthweight among white non-Hispanic teens was 25.0% higher than among white non-Hispanic adult women (8.0% vs. 6.4%), while Asian teens had a 63.4% higher percentage of low birthweight births compared with adult Asian women (11.6% vs. 7.1%).

Table 13.
Low Birthweight¹ Births by Mother's Age and Race/Hispanic Ethnicity
Massachusetts: 1999

Mother's Age	White*		Black*		Hispanic		Asian*		Other		Unknown		Total	
	N ²	% ³	N ²	% ³	N ²	% ³	N ²	% ³	N ²	% ³	N ²	% ³	N ²	% ³
All Ages ⁴	3,833	6.3	712	12.2	721	8.2	301	7.3	137	9.3	4	**	5,708	7.1
20 +	3619	6.3	631	12.3	558	7.9	276	7.1	118	9.4	3	**	5205	6.9
<20	214	8.0	81	11.3	163	9.3	25	11.6	19	8.7	1	**	503	9.0
<18	76	9.7	36	13.4	63	8.9	15	17.4	6	8.0	1	**	197	10.2
18-19	138	7.3	45	10.0	100	9.6	10	7.8	13	9.1	0	0.0	306	8.4
15-17	74	9.7	34	13.2	59	8.7	14	17.3	6	8.5	1	**	188	10.2
<15	2	**	2	**	4	**	1	**	0	0.0	0	0.0	9	12.3

Source: Registry of Vital Records and Statistics, MDPH, 1999

* Non-Hispanic

** Calculations based on 1-4 events are excluded.

¹ Low birthweight: <2,500 grams or 5.5 pounds

² "N" is the total number of low birthweight births in each category.

³ Percentages are based on the total number of births in each category for which birthweight is known.

- Low birthweight births continued to vary with maternal age, with the highest percentage overall occurring among the infants of women less than 15 years old (12.3%), and the lowest occurring among births to women ages 20 and older (6.9%). The occurrence of low birthweight births among women under 20 was 30.4% higher than it was for births to women 20 and over (9.0% vs. 6.9%). The only exception to this occurred among black non-Hispanic mothers where a higher percentage of adult mothers compared to teen mothers delivered low birthweight infants (12.3% vs. 11.3%).
- Low birthweight varied, to some extent, by race/Hispanic ethnicity. Hispanic teens (<20 years of age) were 16.3% more likely to deliver with LBW than white non-Hispanic women. The percentage of LBW births to black non-Hispanic teens was 41.2% higher than LBW among white non-Hispanic teens.

Table 14.
Low Birthweight¹ among Teen Births
by Level of Prenatal Care^{2,3} and Mother's Race/Hispanic Ethnicity
Massachusetts: 1999

Mother's Race/ Ethnicity	Level of Prenatal Care						
	Adequate		Intermediate		Late/None		
	Births	Low Birthweight	Births	Low Birthweight	Births	Low Birthweight	
	N ⁴	N %	N ⁴	N %	N ⁴	N %	
< 20 Years	3,284	284 8.6	1,742	145 8.3	520	63 12.1	
White*	1,611	126 7.8	831	56 6.7	225	27 12.0	
Black*	408	45 11.0	232	26 11.2	72	10 13.9	
Hispanic	1,042	93 8.9	519	48 9.2	173	17 9.8	
Asian*	100	8 8.0	84	11 13.1	28	6 21.4	
Other*	121	12 9.9	75	4 **	22	3 **	
Unknown	2	0 0.0	1	0 0.0	0	0 0.0	

Source: Registry of Vital Records and Statistics, MDPH, 1999

* Non-Hispanic

** Calculations based on 1-4 events are excluded.

¹ Low birthweight: < 2,500 grams or 5.5 pounds

² Adequacy of Prenatal Care is determined by a calculation that combines trimester of prenatal care registration with the number of prenatal care visits and adjusts for gestational age (see Glossary for further explanation).

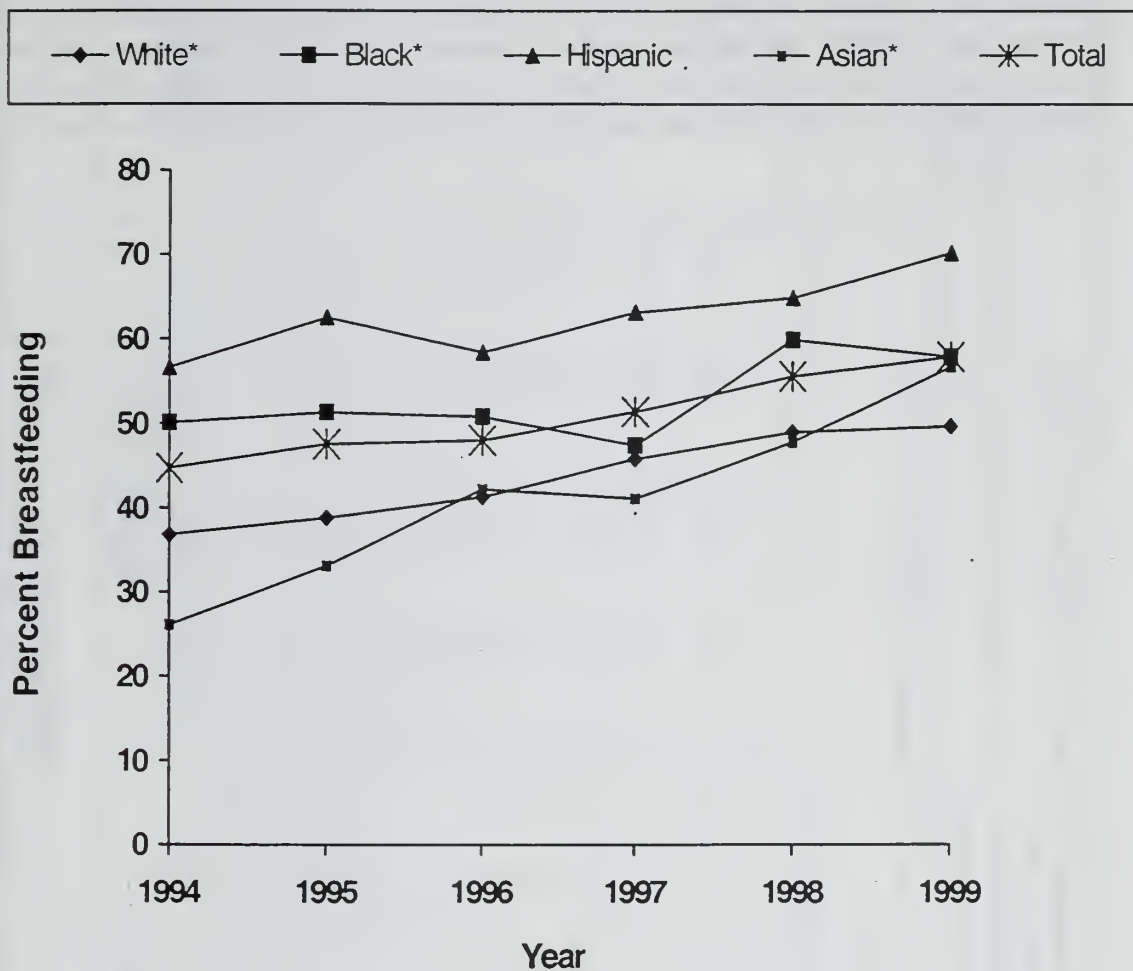
³ Due to a change in 1996 in the collection of information on Adequacy of Prenatal Care, caution should be used when comparing these data over time. Refer to Foreword for an explanation of these changes.

⁴ Births with unknown birthweight and/or unknown adequacy of prenatal care are excluded.

- Teen mothers (< 20 years of age) with no or late prenatal care were more likely to deliver with low birthweight (12.1%) than those who received adequate (8.6%) or intermediate care (8.3%). Those who received intermediate prenatal care were similarly likely to have low birthweight births (8.3%) compared with those who received an adequate level of care (8.6%), but this varied widely across race/Hispanic ethnicity groups.
- Black non-Hispanic teens with adequate prenatal care had a substantially higher percentage of low birthweight (11.0%) than white non-Hispanic teens with adequate prenatal care (7.8%).
- Among black non-Hispanic, Hispanic, and Asian teen mothers, an increase in the level of prenatal care resulted in a decrease in the percentage of low birthweight births. Among white non-Hispanic teen others, the lowest percentage of low birthweight births was exhibited by those receiving an intermediate level of prenatal care.

Figure 8.

Trends in Percent of Women under Age 20 Breastfeeding¹ by Race/Hispanic Ethnicity Massachusetts: 1994-1999



Source: Registry of Vital Records and Statistics, MDPH, 1999

* Non-Hispanic

¹ Mother was breastfeeding or intending to breastfeed at the time the birth certificate was completed.

- The percentage of teen mothers who reported breastfeeding or an intention to breastfeed increased between 1998 and 1999 for all race/Hispanic ethnic groups except black non-Hispanic teen mothers. The overall rate increased from 55.6% to 57.9%. The most dramatic change occurred among Asian teen mothers, increasing from 47.8% in 1998 to 56.7% in 1999.
- Hispanic teen mothers continued to have the highest percentage of breastfeeding or intention to breastfeed in 1999. This percentage has consistently remained higher than 50% over the last six years. While all groups have shown an increase in the percentage of mothers breastfeeding, Asian teen mothers have shown the largest increase (26.1% to 56.7%) over the last six years.

Table 15.

Prenatal Care and Birth Characteristics By Mother's Age and Race/Hispanic Ethnicity Massachusetts: 1999

Mother's Race/Ethnicity	Birthweight ¹		Prenatal Care				C-Section		Breastfeeding ⁴	
	Very Low		Low		Adequate Care ^{2,3}		First Trimester			
	N	% ⁵	N	% ⁵	N	% ⁵	N	% ⁵	N	% ⁵
All Ages ⁶	1,120	1.4	5,708	7.1	63,728	79.4	67,732	84.3	18,080	22.4
20 + Years	1,018	1.4	5,205	6.9	60,441	80.9	64,136	85.7	17,365	23.1
< 20 Years	102	1.8	503	9.0	3,287	59.2	3,596	64.7	715	12.8
White*	46	1.7	214	8.0	1,613	60.4	1,760	65.8	341	12.7
Black*	18	2.5	81	11.3	409	57.3	454	63.4	115	16.0
Hispanic	30	1.7	163	9.3	1,042	60.1	1,146	66.0	216	12.4
Asian*	3	**	25	11.6	100	47.2	106	49.8	10	4.7
Other*	4	**	19	8.7	121	55.5	128	58.7	33	15.1
Unknown	1	**	1	**	2	**	2	**	0	0.0
									1	**

Source: Registry of Vital Records and Statistics, MDPH, 1999

* Non-Hispanic

** Calculations based on 1-4 events are excluded.

1 Very low birthweight: < 1,500 grams or 3.3 pounds Low birthweight: < 2,500 grams or 5.5 pounds

2 Adequacy of Prenatal Care is determined by a calculation that combines trimester of prenatal care registration with the number of prenatal care visits and adjusts for gestational age. (See Glossary for further explanation).

3 Beginning in 1996, due to changes in the collection of information on Adequacy of Prenatal Care, caution should be used when comparing these data over time. Refer to Foreword for an explanation of these changes.

4 Mother was breastfeeding or intending to breastfeed at the time the birth certificate was completed.

5 Percentages are based on total number of births within each category when birthweight, prenatal care, cesarean section or breastfeeding information is known.

- In 1999, very low birthweight was still more common among births to teens (<20 years) than among births to older women (1.8% vs. 1.4%). Among teen births, very low birthweight was highest among births to black non-Hispanic mothers (2.5%).
- As in previous years, women under 20 were less likely than women over 20 to receive adequate prenatal care (59.2% vs. 80.9%), as well as prenatal care during the first trimester (64.7% vs. 85.7%).
- A higher percentage of white non-Hispanic and Hispanic teens received adequate prenatal care (60.4% and 60.1% respectively) compared with other race/Hispanic ethnicity groups. Asian teen mothers had the lowest percentage (47.2%), although the percentage has increased 30.4% since 1998 (36.2%).
- 66.0% of Hispanic teens began prenatal care during the first trimester compared to only 49.8% of Asian teen mothers.
- C-Sections were less common among teen mothers than non-teen mothers (12.8% vs. 23.1%). The percentage for teen mothers remained stable from 1998 to 1999 (12.4% vs. 12.8%), while the percentage for adult mothers rose from 21.5% to 23.1% (1998 data not shown).
- Breastfeeding or an intention to breastfeed, was reported by over half of the teen mothers (57.9%) compared with nearly three-quarters (73.0%) of older mothers. The intention to breastfeed varied widely among race/Hispanic ethnicity groups.

Table 16.
Births by Gestational Age, Mother's Age, and Mother's Race/Hispanic Ethnicity
Massachusetts: 1999

Mother's Age and Gestational Age ¹ (weeks completed)	White*		Black*		Hispanic		Asian*		Other*		Unknown		Total	
	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²	N	% ²
20 Years and Older	57,702	100.0	5,124	100.0	8,405	100.0	2,609	100.0	1,252	100.0	186	100.0	75,278	100.0
< 37 weeks	4,025	7.0	618	12.1	686	8.2	194	7.4	121	9.7	2	**	5,646	7.5
37-42 weeks	53,228	92.2	4,482	87.5	7,670	91.3	2,401	92.0	1,125	89.9	71	38.2	68,977	91.6
43 + weeks	67	0.1	5	0.1	13	0.2	1	**	1	**	0	0.0	87	0.1
Unknown	382	0.7	19	0.4	36	0.4	13	0.5	5	0.4	113	60.8	568	0.8
Less than 20 Years	2,686	100.0	719	100.0	1,756	100.0	205	100.0	218	100.0	4	**	5,588	100.0
< 37 weeks	215	8.0	71	9.9	169	9.6	19	9.3	15	6.9	1	**	490	8.8
37-42 weeks	2,443	91.0	646	89.8	1,578	89.9	186	90.7	202	92.7	2	**	5,057	90.5
43 + weeks	3	**	1	**	3	**	0	0.0	0	0.0	1	**	8	0.1
Unknown	25	0.9	1	**	6	0.3	0	0.0	1	**	0	0.0	33	0.6

Source: Registry of Vital Records and Statistics, MDPH, 1999

* Non-Hispanic

** Calculations based on 1-4 events are excluded.

¹ Clinical estimate of the number of weeks of pregnancy completed as estimated by the attendant at birth or the postnatal physician. The definition of normal gestational age has been revised for 1999 report (see Technical Notes).

² Percentages are based on column totals.

- The incidence of preterm birth (< 37 weeks gestation) continued to be higher among teen births than among births to older women (8.8% vs. 7.5%). The gap between the two groups remained essentially stable in the past year from 1.0% in 1998 to 1.3% in 1999 (1998 data not shown).
- The percentage of preterm births was 9.9% among black non-Hispanic teen mothers and 9.6% among Hispanic teen mothers. White non-Hispanic teen mothers had the lowest percentage of preterm delivery among race/Hispanic ethnicity groups (8.0%).

Table 17.
Trends in Infant Mortality Rates¹ by Mother's Age and Race/Hispanic Ethnicity
Massachusetts: 1992-1998²

Mother's Age	White*		Black*		Hispanic		Asian*		Other/Unk		Total	
	N ³	Rate	N ³	Rate	N ³	Rate	N ³	Rate	N ³	Rate	N ³	Rate
1992- 20+	343	5.4	89	15.9	41	6.1	18	5.8	16	16.0	507	6.3
<20	32	9.0	20	18.9	19	11.0	0	0.0	2	**	73	11.0
1993- 20+	318	5.1	68	12.6	47	7.3	10	3.2	11	11.1	454	5.8
<20	25	7.2	14	14.0	23	12.7	2	**	0	0.0	64	9.7
1994- 20+	293	4.8	73	13.9	37	5.7	14	4.4	15	15.2	432	5.6
<20	33	10.0	8	8.0	20	10.3	1	**	2	**	64	9.7
1995- 20+	228	3.8	55	11.0	48	7.6	15	4.6	13	12.7	359	4.8
<20	25	7.8	7	8.1	15	8.7	0	0.0	1	**	48	7.9
1996- 20+	239	4.1	55	11.8	31	5.1	10	2.9	14	9.8	349	4.7
<20	21	7.1	10	12.3	13	7.5	1	**	2	**	47	8.0
1997- 20+	251	4.3	46	9.6	43	6.2	11	3.1	18	12.5	369	4.9
<20	14	4.7	11	14.8	12	6.8	0	0.0	4	**	41	6.9
1998- 20+	243	4.1	50	10.4	44	6.4	12	3.4	9	6.3	358	4.7
<20	20	6.8	7	9.4	14	7.9	1	5.4	1	4.1	43	7.3

Source: Registry of Vital Records and Statistics, MDPH: 1991-1999

* Non-Hispanic

** Calculations based on 1-4 events are excluded.

¹ Age and race-specific infant mortality rate: Number of infant deaths per 1,000 live births in each age group

² 1998 is the last year data are available for this analysis (see Technical Notes for further explanation of age-specific infant mortality).

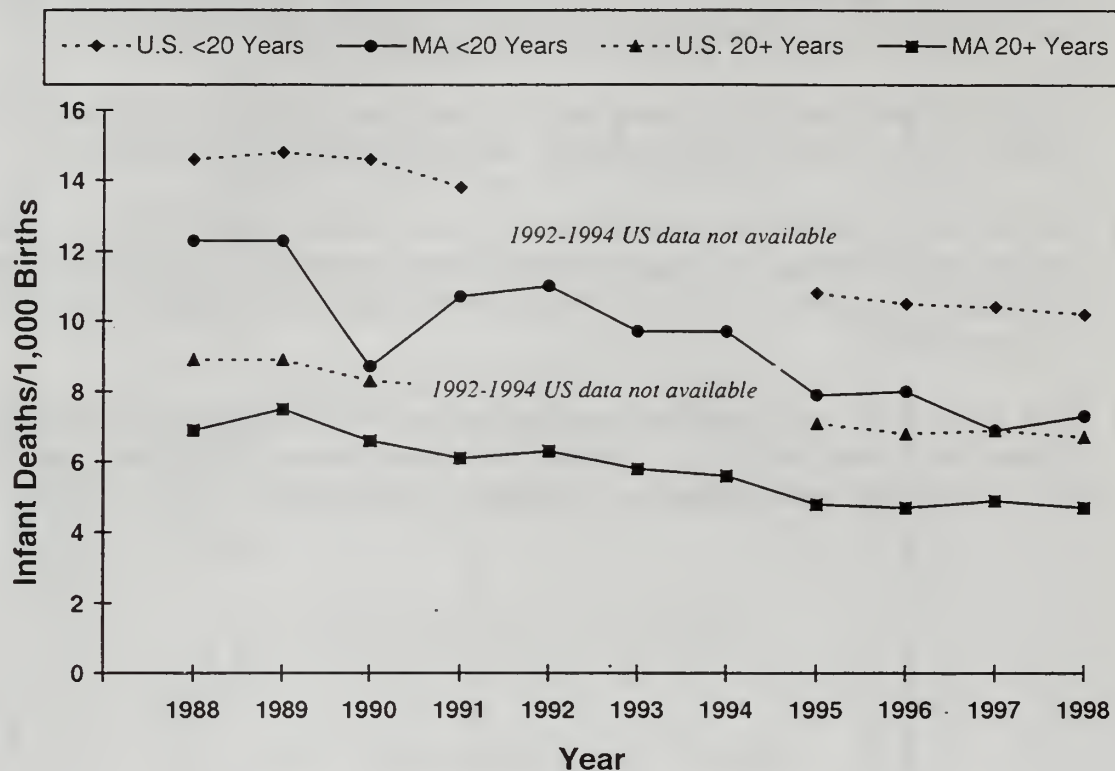
³ "N" refers to the number of infants born in that year who died before their first birthday.

- As in previous years, the 1998 infant mortality rate (IMR) was higher among births to teen mothers compared to births to adult mothers. This difference, however, increased slightly between 1997 and 1998, as the IMR among births to adults dropped from 4.9 to 4.7 deaths per 1,000 live births, while the IMR for births to teens increased from 6.9 to 7.3.
- In 1998, the IMR was higher among births to teen mothers compared to births to adult mothers among all race/Hispanic ethnicity categories except black non-Hispanics.
- The IMR among births to teen mothers dropped considerably among black non-Hispanic teens in 1998 following two years of increased rates. Between 1997 and 1998, the IMR among births to black non-Hispanic teen mothers dropped 36.5% from 14.8 to 9.4 deaths per 1,000 live births.
- IMR among births to teen mothers increased for both white non-Hispanic women and Hispanic women in 1998. The rate among white non-Hispanic teen mothers rose from 4.7 to 6.8, while the rate among Hispanic teen mothers went from 6.8 to 7.9.

Figure 9.

Trends in Infant Mortality Rates¹ by Mother's Age

Massachusetts: 1988-1998² and U.S.: 1988-1991, 1995-1998³



	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
U.S. <20 Years	14.6	14.8	14.6	13.8	N/A	N/A	N/A	10.8	10.5	10.4	10.2
MA <20 Years	12.3	12.3	8.7	10.7	11.0	9.7	9.7	7.9	8.0	6.9	7.3
U.S. 20+	8.9	8.9	8.3	8.1	N/A	N/A	N/A	7.1	6.8	6.9	6.7
MA 20+	6.9	7.5	6.6	6.1	6.3	5.8	5.6	4.8	4.7	4.9	4.7

Source: Registry of Vital Records and Statistics, MDPH, 1988-1999;

National Center for Health Statistics, 1988-1991 and 1995-1999

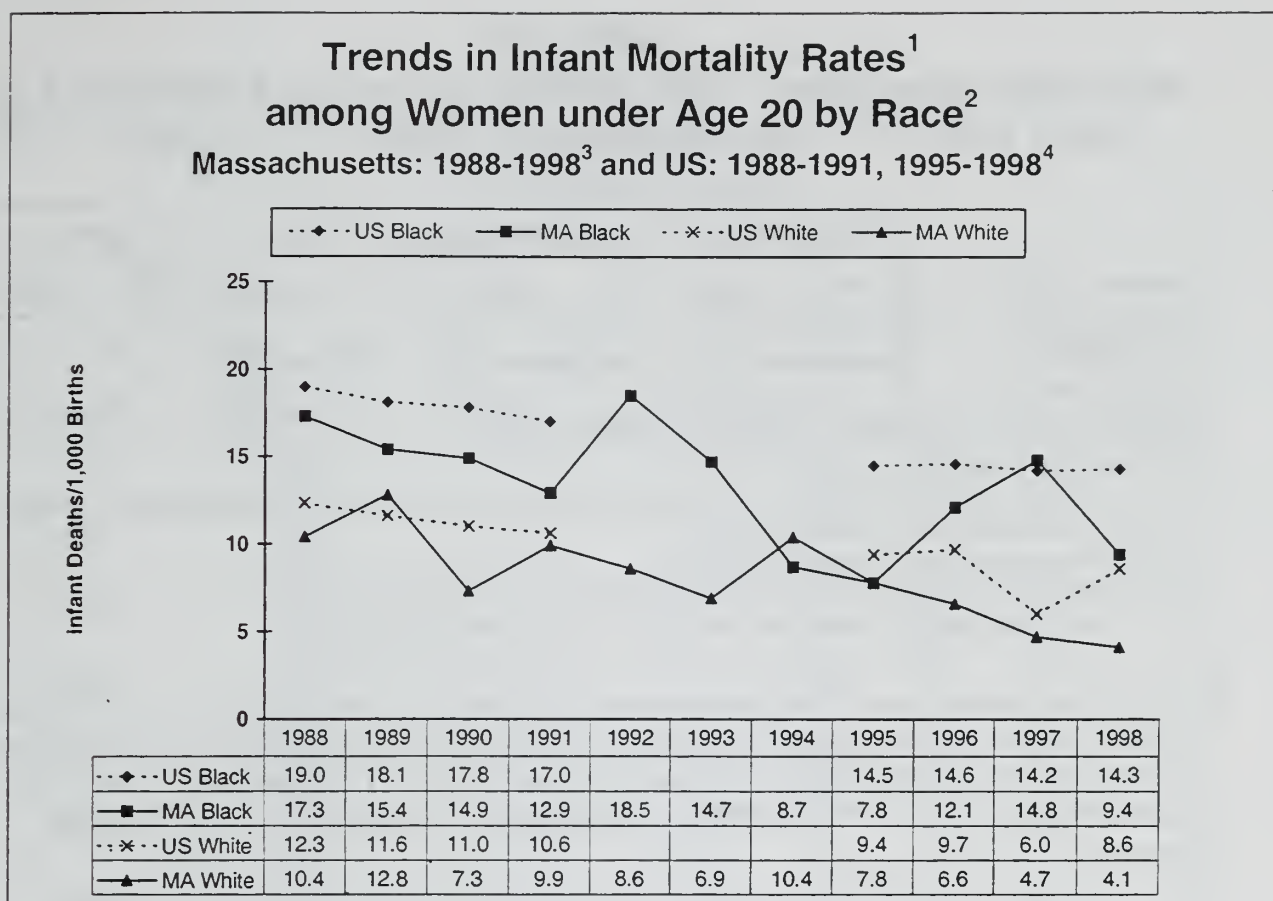
¹ Age-specific infant mortality rate: Number of infant deaths per 1,000 live births to mothers in each age group (see Glossary for further explanation).

² 1998 is the latest year data are available for this analysis (see Technical Notes for further explanation).

³ U.S. data is not available for 1992-1994

- The infant mortality rate (IMR) in Massachusetts remained much lower than the national average among both teen and adult mothers. The IMR among Massachusetts teen births in 1998 was 28.4% lower than the IMR among U.S. teen births (7.3 vs. 10.2 deaths per 1,000 live births). Similarly, the IMR among Massachusetts adult births was 29.9% lower than the national IMR among older mothers (4.7 vs. 6.7 deaths per 1,000 live births).
- The teen IMR, as well as the adult IMR, for both the U.S. and MA remained relatively stable between 1997 and 1998.

Figure 10.



Source: Massachusetts data from Registry of Vital Records and Statistics, MDPH: 1988-1998. U.S. data from the National Center for Health Statistics, 1988-1991 and 1995-1998.

¹ Age and race-specific infant mortality rate: Number of infant deaths per 1,000 live births to mothers in each age group (see Glossary for further explanation).

² The white and black race categories include Hispanics.

³ 1998 is the latest year data were available for this analysis (see Technical Notes for further explanation).

⁴ U.S. data is not available for 1992-1994.

- The IMR among births to white mothers for the U.S. rose considerably from 6.0 deaths per 1,000 live births in 1997 to 8.6 death per 1,000 live births in 1998. The IMR among births to white mothers was 4.1 in 1998, compared to 4.7 in 1997.
- The IMR for births to black mothers in Massachusetts, which had risen in recent years, dropped from 14.8 deaths per 1,000 live births in 1997 to 9.4 deaths per 1,000 live births in 1998. During the same period, the IMR among births to black mothers nationally has remained fairly stable at 14.3 deaths per 1,000 live births.

Table 18.
Infant Mortality Rates^{*1} by Low Birthweight² and Mother's Age
Massachusetts: 1998³

Mother's Age	<1500g		1500-2499g		<2500g		2500+g	
	N ⁴	IMR	N ⁴	IMR	N ⁴	IMR	N ⁴	IMR
20 + Years	214	223.6	40	9.6	254	49.5	95	1.3
< 20 Years	23	203.5	10	24.4	33	63.1	9	1.7

Source: Registry of Vital Records and Statistics, MDPH: 1999

* Unknown birthweight excluded.

¹ Age and birthweight-specific infant mortality rate: Number of infant deaths per 1,000 live births in each age group (see Glossary for further explanation).

² Low birthweight: < 2,500 grams or 5.5 pounds

³ Year data are available for this analysis (see Technical Notes for further explanation).

⁴ "N" refers to the number of deaths occurring in that age and birthweight category.

- The infant mortality rate (IMR) among normal birthweight infants (2,500 grams or more) was similar for teen mothers and adult mothers (1.7 and 1.3 deaths per 1,000 live births). These figures experienced little change between 1997 and 1998. In 1997, the IMR for births to adult mothers was 1.2, while the IMR for births to teen mothers was 1.7 (1997 data not shown).
- The IMR increased dramatically as birthweight declined among both teen and adult mothers in 1998. The IMR among very low birthweight births (<1,500 grams) for adult mothers was 223.6 compared to 9.6 among moderately low birthweight births (1,500 to 2,499 grams). Similarly, among teen mothers, the IMR for very low birthweight births was 203.5 compared to 24.4 for moderately low birthweight births.
- The IMR among births to teen mothers was lower than the IMR among births to adult mothers for very low birthweight births (203.5 vs. 223.6 deaths per 1,000 live births). For moderately low birthweight births, however, the IMR was lower among older mothers (9.6 vs. 24.4 deaths per 1,000 live births). Among all low birthweight births (<2,500 grams) in 1998, the IMR for births to teen mothers was higher than the IMR for births to adult mothers (63.1 vs. 49.5 deaths per 1,000 live births).

Table 19.
Trends in Neonatal and Post Neonatal Mortality Rates
by Mother's Age
Massachusetts: 1992-1998¹

Year	Mother's Age	Neonatal ² Mortality		Post Neonatal ³ Mortality		Total Infant ⁴ Mortality	
		N ⁵	Rate	N ⁵	Rate	N ⁵	Rate
1992	20+	372	4.6	130	1.6	502	6.2
	<20	52	7.8	21	3.2	73	11.0
1993	20+	331	4.2	123	1.6	454	5.8
	<20	44	6.7	20	3.0	64	9.7
1994	20+	309	4.0	122	1.6	431	5.6
	<20	47	7.2	17	2.6	64	9.7
1995	20+	263	3.5	96	1.3	359	4.8
	<20	29	4.7	19	3.1	48	7.9
1996	20+	252	3.4	95	1.3	347	4.7
	<20	28	4.8	19	3.2	47	8.0
1997	20+	292	3.9	77	1.0	369	4.9
	<20	35	5.9	6	1.0	41	6.9
1998	20+	286	3.8	72	1.0	358	4.7
	<20	33	5.6	10	1.7	43	7.3

Source: Registry of Vital Records and Statistics, MDPH: 1991-1999

¹ 1998 is the latest year data were available for this analysis (see Technical Notes for further explanation).

² Neonatal: Less than 28 days (see Glossary)

³ Post neonatal: 28-364 days (see Glossary)

⁴ Age-specific infant mortality rate: Number of infant deaths per 1,000 live births in each age group (see Glossary for further explanation)

⁵ "N" refers to the number of deaths occurring in that year.

- The neonatal mortality rate among births to teen mothers remained higher in 1998 than the rate among births to adult mothers (5.6 vs. 3.8 deaths per 1,000 live births). The rate for teen mothers remained stable from 1997 (5.9) to 1998 (5.6).
- Post neonatal mortality rates differed only slightly in 1998 between teen and adult mothers (1.7 vs. 1.0 deaths per 1,000 live births). The rate among births to teen mothers, however, has varied over time.
- In 1998, among both adult and teen mothers, the rates of post neonatal mortality were considerably lower than the rates for neonatal mortality (3.8 vs. 1.0 for adult mothers and 5.6 vs. 1.7 for teen mothers).

Table 20.
Maternal Smoking^{1,2} During Pregnancy by Mother's Age and
Race/Hispanic Ethnicity
Massachusetts: 1999

Mother's Race/Ethnicity	< 20 Years			20+ Years		
	Births N ³	Smokers N	%	Births N ³	Smokers N	%
Total	5,588	1,133	20.3	75,278	7,468	9.9
White*	2,686	822	30.6	57,716	6,239	10.8
Black*	719	77	10.7	5,125	482	9.4
Hispanic	1,746	176	10.1	7,069	549	7.8
Asian*	215	18	8.4	3,923	48	1.2
Other*	218	40	18.3	1,259	150	11.9
Unknown	4	0.0	0.0	186	0	0.0

Source: Registry of Vital Records and Statistics, MDPH, 1999

* Non-Hispanic

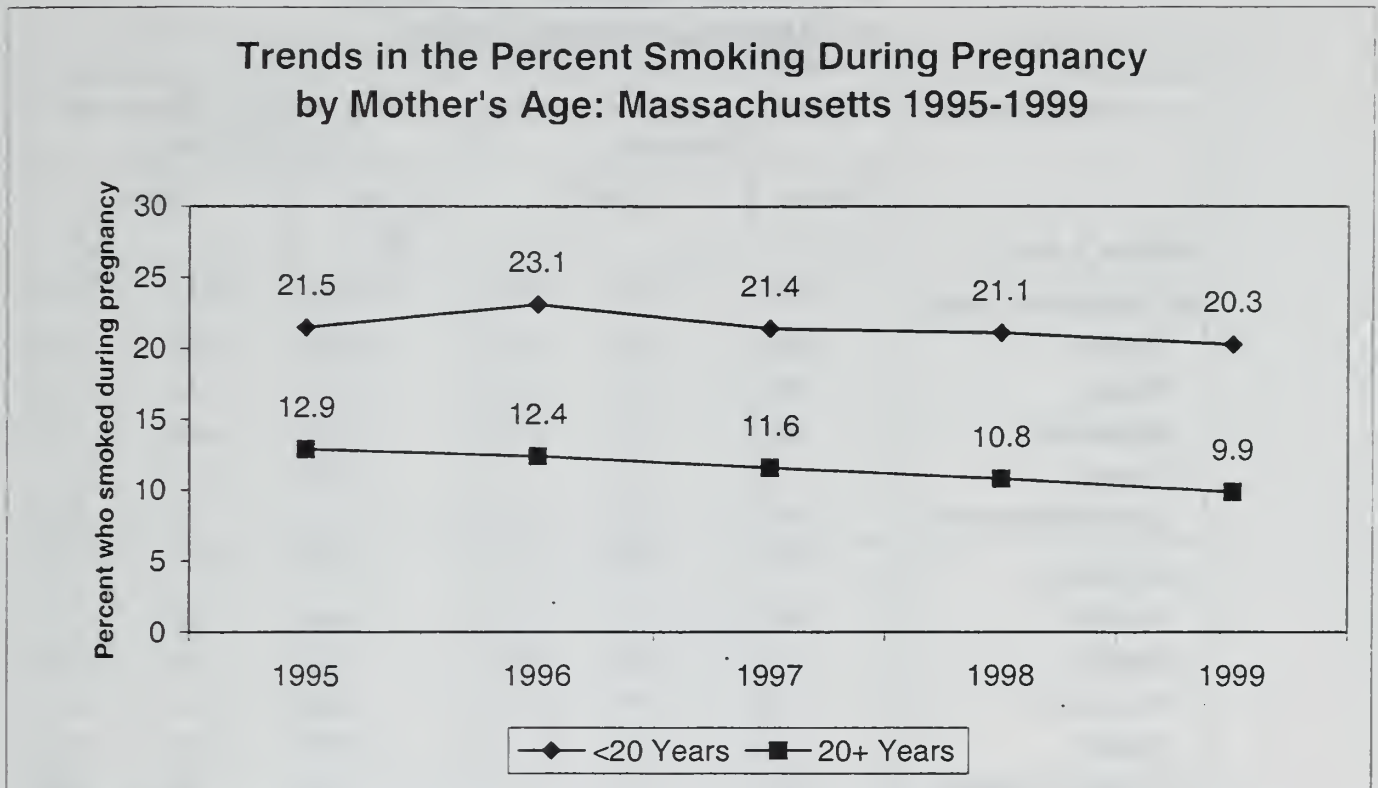
¹ Any amount of cigarette smoking by mother during pregnancy

² Maternal smoking is self-reported by mothers, usually following the birth of their child, and as such these data should be interpreted cautiously. Self-reported data may be biased, artificially lowering smoking prevalence.

³ Cases with unknown smoking status are excluded.

- As in 1998, teen mothers reported much higher rates of smoking during pregnancy in 1999 than adult mothers (20.3% vs. 9.9%).
- Between 1998 and 1999, both segments displayed little change in the prevalence of smoking during pregnancy. The percentage of teen mothers who smoked during pregnancy was 20.3%, compared to 21.1% in 1998, while the prevalence of adult women smoking during pregnancy was 9.9%, compared to 10.8% in 1998. (1998 data not shown.)
- Among teen mothers, white non-Hispanic women had the highest prevalence of smoking (30.6%), dramatically higher than their adult counterparts (10.8%). Asian teen mothers had the lowest prevalence of smoking (8.4%).
- From 1998 to 1999, the smoking rate for Hispanics increased 6.3% (from 9.5% to 10.1%) and for Asian teen mothers increased 10.5% (from 7.6% to 8.4%). However, the rate among white non-Hispanic mothers decreased 3.8% (from 31.8% to 30.6%). The smoking rate for black non-Hispanic teen mothers did not change between 1998 and 1999. (1998 data not shown.)

Figure 11.



Source: Registry of Vital Records and Statistics, MDPH, 1995-1999.

- In 1999, both teen mothers and adult mothers reported a five year low in the percentage of mothers who smoked during pregnancy.
- From 1995 to 1999, the percent of women under 20 who smoked during pregnancy decreased 5.6% (from 21.5% to 20.3%). Adult mothers reported a 22.5% decrease (from 12.9% to 9.9%) in smoking during pregnancy over this same time period.

Table 21.
Low Birthweight by Mother's Age, Smoking^{1,2} Status
and Race/Hispanic Ethnicity
Massachusetts: 1999

Mother's Age	Smokers			Non-Smokers		
	Births N ³	LBW		Births N ³	LBW	
		N	% ⁴		N	% ⁴
20 Years and Older	7,468	820	11.0	67,547	4,375	6.5
White*	6,239	632	10.1	51,401	2,980	5.8
Black*	482	87	18.0	4,640	544	11.7
Hispanic	549	73	13.3	6,513	484	7.4
Asian*	48	2	**	3,875	274	7.1
Other/Unknown*	150	26	17.3	1,118	93	8.3
< 20 Years	1,133	116	10.2	4,443	381	8.6
White*	822	79	9.6	1,856	132	7.1
Black*	77	10	13.0	641	70	10.9
Hispanic	176	20	11.4	1,569	142	9.1
Asian*	18	4	**	197	21	10.7
Other/Unknown*	40	3	**	180	16	8.9

Source: Registry of Vital Records and Statistics, MDPH, 1999

* Non-Hispanic

¹ Any amount of smoking cigarettes by mother during pregnancy

² Maternal smoking is self-reported by mothers, usually following the birth of their child, and as such these data should be interpreted cautiously. Self-reported data may be biased, artificially lowering smoking prevalence.

³ Cases with unknown smoking status or birthweight were excluded.

⁴ Percentage of low birthweight births (<2,500 grams) to smoking or non-smoking mothers

- For both teen and adult mothers, low birthweight births increased with smoking during pregnancy. Low birthweight births occurred more frequently among mothers who smoked during pregnancy for white non-Hispanic, black non-Hispanic, and Hispanic teen women.
- Compared to 1998, low birthweight births to smokers increased in 1999 for teen mothers (8.8% to 10.2%), and remained essentially stable for adult mothers (10.4% to 11.0%) (1998 data not shown). However, this trend varied by race/Hispanic ethnicity. White non-Hispanic smokers showed an increase in low birthweight births, while Hispanic and black non-Hispanic smokers showed a decrease in low birthweight births among both teens and adults.

- The percentage of low birthweight births among adult smokers was 69.2% higher (11.0% vs. 6.5%) than among adult non-smokers. Among teens, the percentage of low birthweight births was 18.6% higher (10.2% vs. 8.6%) for smokers compared with non-smokers.
- Low birthweight among smokers varied between the two age groups. A higher percentage of low birthweight births was reported for adults as compared to their teen counterparts among black non-Hispanic (18.0% vs. 13.0%) and Hispanic (13.3% vs. 11.4%) smokers.

Table 22.
Smoking Level¹ Before and During Pregnancy by Mother's Age
Massachusetts: 1999

Smoking Prior To Pregnancy			Smoking During Pregnancy							
			Quit		Reduced		Same or More		Total Continued	
	N	%	N	%	N	%	N	%	N	%
All Smokers	14,888	18.5	6,287	42.2	6,105	41.0	2,496	16.8	8,601	10.7
20+ Years	12,975	17.3	5,507	42.4	5,258	40.5	2,210	17.0	7,468	10.0
< 20 Years	1,913	34.3	780	40.8	847	44.3	286	15.0	1,133	20.3
Light Smokers	7,164	8.9	4,122	57.5	1,668	23.3	1,374	19.2	3,042	3.8
20+ Years	6,135	8.2	3,607	58.8	1,381	22.5	1,147	18.7	2,528	3.4
< 20 Years	1,029	18.4	515	50.0	287	27.9	227	22.1	514	9.2
Moderate Smokers	6,470	8.0	1,965	30.4	3,535	54.6	970	15.0	4,505	5.6
20+ Years	5,743	7.7	1,727	30.1	3,100	54.0	916	15.9	4,016	5.4
< 20 Years	727	13.0	238	32.7	435	59.8	54	7.4	489	8.8
Heavy Smokers	1,254	1.6	200	15.9	902	71.9	152	12.1	1,054	1.3
20+ Years	1,097	1.5	173	15.8	777	70.8	147	13.4	924	1.2
< 20 Years	157	2.8	27	17.2	125	79.6	5	3.2	130	2.3

Source: Registry of Vital Records and Statistics, MDPH, 1999

¹ Daily use: Light = 1-10 cigarettes, Moderate = 11-20 cigarettes, Heavy = 21+ cigarettes

- Overall, the fewer cigarettes mothers smoked *prior* to pregnancy, the more likely they were to quit or reduce their level of smoking *during* pregnancy. This pattern was found across all groups. Both teen and adult women had similar rates of quitting during pregnancy.
- Among teen mothers who were light smokers prior to pregnancy (smoked 1-10 cigarettes per day), half (50.0%) quit smoking during pregnancy, 27.9% reduced their levels of smoking and 22.1% increased or maintained their smoking level. A similar pattern also occurred among adult mothers.
- In 1999, 92.5% of teen mothers who were moderate smokers prior to pregnancy either quit or reduced their consumption, compared with 84.1% of adult mothers in the same category. Among moderate teen smokers, 59.8% reduced their smoking status to light and 32.7% quit, while 54.0% of moderate adult smokers reduced to light smoking and 30.1% quit.
- Older mothers (ages 20 and older) who were heavy smokers prior to pregnancy (smoked 21 or more cigarettes per day) were far less likely to quit or reduce their smoking levels compared with heavy smoking teen mothers. Among the heavy smoking mothers, 96.8% of teens either quit or reduced their smoking levels to light compared with 86.6% of older mothers. Similarly, 13.4% of older, heavy smoking mothers remained heavy smokers during pregnancy, as opposed to only 3.2% of teen, heavy smoking mothers.

Table 23.
Expected Educational Attainment among Teen Mothers
by Race/Hispanic Ethnicity
Massachusetts: 1999

Community	Behind Grade Level ¹					
	1997		1998		1999	
	Number	Percent	Number	Percent	Number	Percent
Total	1,744	29.7	1,833	31.1	1,771	31.7
White*	760	26.6	831	28.2	790	29.5
Black*	141	17.8	147	19.8	151	21.0
Hispanic	721	40.0	735	41.4	700	40.1
Asian*	63	29.4	53	28.6	66	30.7
Other	59	28.9	66	27.6	64	29.5
Unknown	0	0.0	1	**	0	0.0

Source: Registry of Vital Records and Statistics, MDPH, 1997-1999

* Non-Hispanic

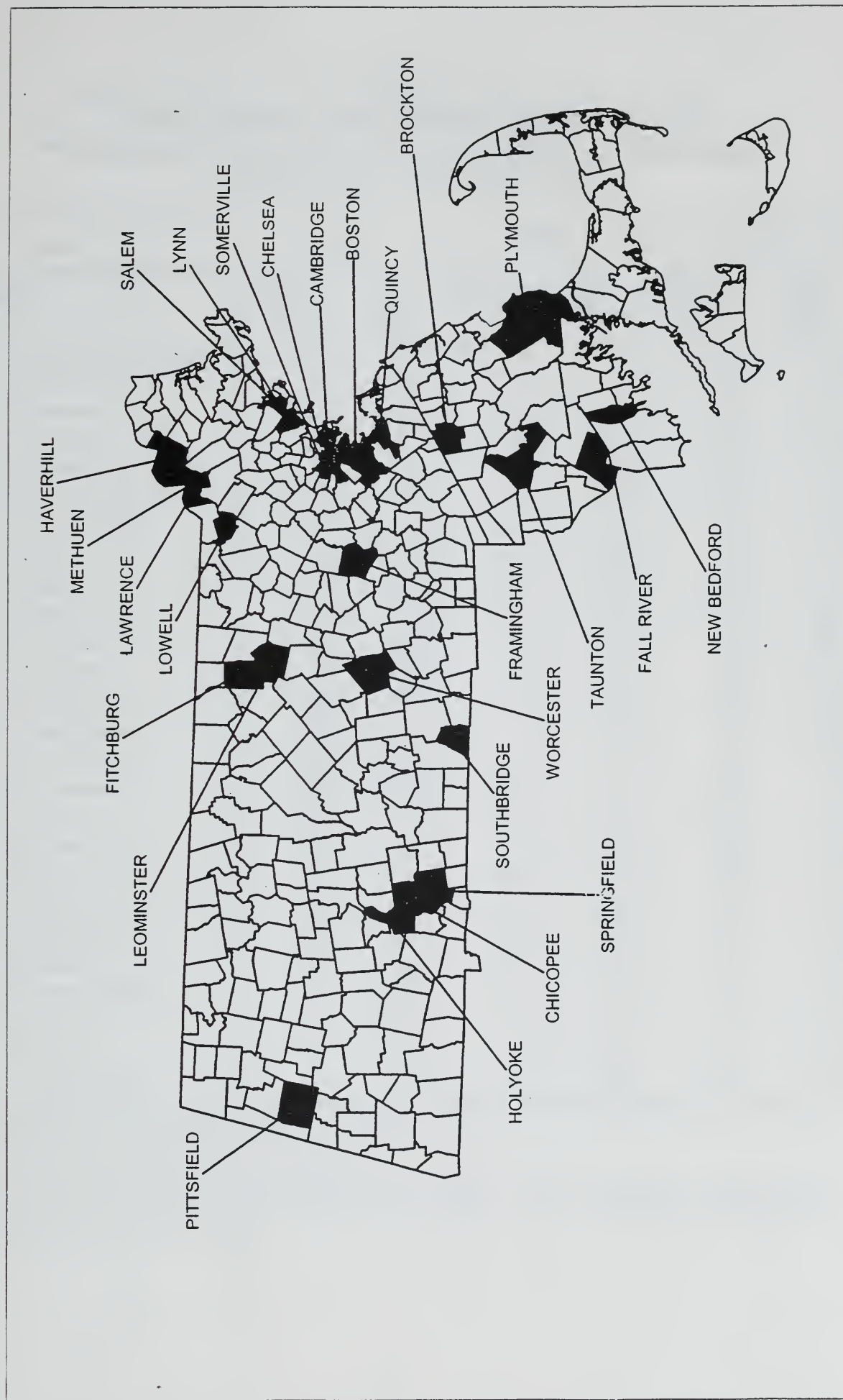
¹ "Behind Grade Level" is defined as two or more grades behind the maximum expected age for a grade at the time of delivery (see Technical Notes and Glossary for further explanation).

- In 1999, 31.7% of births to teens (< 20 years of age) were to women who were behind their expected grade level at school.
- Among race/Hispanic ethnic groups, Hispanic teen mothers were most likely to be behind their expected grade level (40.1%), followed by Asian teen mothers (30.7%) and white non-Hispanic teen mothers (29.5%). Black non-Hispanic teen mothers were least likely to be behind their expected grade level at the time of delivery (21.0%).
- From 1997 to 1999, among all race/Hispanic ethnicity groups, the percentage of teen mothers who were behind their expected grade level increased 6.7% (29.7% to 31.7%). Black non-Hispanics had the greatest increase, 18.0% (from 17.8% to 21.0%) followed by white non-Hispanics, 10.9% (from 26.6% to 29.5%).

III.

*Birth Characteristics
for Selected Communities*

Figure 12.
25 Communities with the Highest Number of Teen Births, 1999.



Source: Registry of Vital Records and Statistics, MDPH, BHSRE, 1999.
Map Produced by Office of Statistics and Evaluation, MDPH, 2000.

Table 24.
Trends in Birth Rates Among Women Ages 15-19
for Selected Communities¹, Ranked by 1999 Teen Birth Rate^{2,3}
Massachusetts: 1999, 1998, 1990

1999 Rank	Demographic Area	1999		1998		1990	
		Number Births 15-19	Teen Birth Rate	Number Births 15-19	Teen Birth Rate	Number Births 15-19	Teen Birth Rate
	Massachusetts	5,515	26.6	5,823	28.1	7,258	35.1
1	Chelsea	90	107.5	100	119.5	105	114.8
2	Lawrence	277	103.9	298	111.8	338	122.8
3	Holyoke	147	100.5	189	129.3	203	140.3
4	Springfield	485	86.7	458	81.9	523	87.9
5	Southbridge	41	74.0	45	81.2	48	82.5
6	New Bedford	221	72.4	220	72.0	263	76.3
7	Lynn	174	67.9	191	74.5	194	79.4
8	Lowell	235	62.9	239	64.0	309	81.3
9	Brockton	169	60.9	178	64.1	216	67.8
10	Fitchburg	94	57.9	89	54.8	146	82.1
11	Taunton	83	53.0	70	44.7	95	61.0
12	Fall River	150	52.8	155	54.6	246	76.9
13	Leominster	60	52.1	49	42.6	42	37.8
14	Haverhill	82	49.6	80	48.4	94	60.4
15	Worcester	304	46.2	328	49.8	399	58.8
16	Boston	761	41.0	823	44.3	1,137	52.7
17	Somerville	64	38.5	60	36.1	64	29.2
18	Salem	46	37.4	49	39.8	45	35.4
19	Chicopee	63	36.5	70	40.6	84	44.9
20	Pittsfield	48	33.1	68	46.9	74	48.3
21	Methuen	42	32.8	47	36.7	53	41.7
22	Framingham	54	27.8	44	22.7	44	19.6
23	Plymouth	34	19.4	38	21.7	55	35.6
24	Quincy	34	16.9	46	22.9	51	22.0
25	Cambridge	44	14.5	31	10.2	54	14.9

Sources: Registry of Vital Records and Statistics, MDPH, BHRSE, 1998, 1999. The 1990 population data are based on the 1990 Census Massachusetts Age, Race and Sex File (MARS File).

¹ 25 communities with the greatest number of births to teens ages 15-19 in 1999

² Rates are per 1,000 females ages 15-19 in each city/town.

³ Rates were recalculated using new population estimates for female teens ages 15-19. 1998 rates were re-calculated based on 1998 population estimates released in September 2000. 1999 rates were calculated with 1998 MISER estimates as 1999 population estimates are not yet available.

Table 25.
Births by Mother's Age and Race/Hispanic Ethnicity
for Selected Communities¹
Massachusetts: 1999

Community	Births	White*	Black*	Hispanic	Asian*	Other/ Unknown	Total ³
Massachusetts	All Ages ²	60,402	5,844	8,815	4,138	1,667	80,866
	< 18	786	268	709	86	77	1,926
	< 20	2,686	719	1,746	215	222	5,588
	20 +	57,716	5,125	7,069	3,923	1,445	75,278
Boston	All Ages ²	2,835	2,601	1,716	584	281	8,017
	<18	38	132	96	6	11	283
	<20	107	352	262	19	35	775
	20+	2,728	2,249	1,454	565	246	7,242
Brockton	All Ages ²	661	373	165	38	214	1,451
	<18	25	11	13	**	¥	61
	<20	64	32	42	5	30	173
	20+	597	341	123	33	184	1,278
Cambridge	All Ages ²	627	165	92	145	33	1,062
	<18	**	**	**	0	1	6
	<20	11	17	11	**	**	44
	20+	616	148	81	¥	¥	1,018
Chelsea	All Ages ²	139	56	393	36	17	641
	<18	**	0	31	0	**	35
	<20	17	**	69	**	2	92
	20+	122	¥	324	¥	15	549
Chicopee	All Ages ²	483	10	93	6	3	595
	<18	16	**	10	0	**	27
	<20	44	**	19	0	**	64
	20+	439	¥	74	6	**	531
Fall River	All Ages ²	938	57	56	35	11	1,097
	<18	37	**	**	**	4	51
	<20	112	12	12	11	5	152
	20+	826	45	44	24	6	945
Fitchburg	All Ages ²	356	21	147	21	21	566
	<18	13	**	15	**	1	33
	<20	45	**	36	6	**	94
	20+	311	¥	111	15	¥	472
Framingham	All Ages ²	664	47	183	84	22	1,000
	<18	**	**	13	0	0	19
	<20	21	5	27	0	1	54
	20+	643	42	156	84	21	946
Haverhill	All Ages ²	761	23	118	9	10	921
	<18	18	**	7	0	**	30
	<20	61	**	18	0	**	85
	20+	700	¥	100	9	¥	836

Table 25. (Continued)
Births by Mother's Age and Race/Hispanic Ethnicity
for Selected Communities¹
Massachusetts: 1999

Community	Births	White*	Black*	Hispanic	Asian*	Other/ Unknown	Total ³
Holyoke	All Ages ²	187	19	389	7	1	603
	<18	**	**	55	0	0	58
	<20	15	**	131	**	0	149
	20+	172	¥	258	¥	1	454
Lawrence	All Ages ²	322	32	995	43	19	1,411
	<18	8	**	88	5	**	102
	<20	41	**	226	9	**	280
	20+	281	¥	769	34	¥	1,131
Leominster	All Ages ²	399	34	105	22	15	575
	<18	8	0	9	**	**	19
	<20	27	**	27	**	3	60
	20+	372	¥	78	¥	12	515
Lowell	All Ages ²	816	79	315	431	35	1,676
	<18	20	5	43	34	2	104
	<20	76	8	75	75	4	238
	20+	740	71	240	356	31	1,438
Lynn	All Ages ²	633	173	422	132	27	1,387
	<18	17	5	31	12	2	67
	<20	55	21	71	28	4	179
	20+	578	152	351	104	23	1,208
Methuen	All Ages ²	421	11	87	17	1	537
	<18	10	0	**	**	0	15
	<20	28	**	11	**	0	42
	20+	393	¥	76	¥	1	495
New Bedford	All Ages ²	888	84	178	8	109	1,267
	<18	37	**	21	**	11	75
	<20	117	19	55	**	¥	224
	20+	771	65	123	¥	¥	1,043
Pittsfield	All Ages ²	426	34	6	12	13	491
	<18	9	**	0	0	**	12
	<20	35	8	**	**	2	48
	20+	391	26	**	¥	11	443
Plymouth	All Ages ²	676	8	11	7	14	716
	<18	11	0	**	0	**	14
	<20	29	0	**	0	**	34
	20+	647	8	¥	7	¥	682
Quincy	All Ages ²	765	41	25	239	13	1,083
	<18	12	**	**	0	0	14
	<20	28	**	**	**	1	35
	20+	737	¥	¥	¥	12	1,048

Table 25. (Continued)
Births by Mother's Age and Race/Hispanic Ethnicity
for Selected Communities¹
Massachusetts: 1999

Community	Births	White*	Black*	Hispanic	Asian*	Other/ Unknown	Total ³
Salem	All Ages ²	362	26	92	14	10	504
	<18	5	0	8	0	0	13
	<20	21	**	22	**	0	46
	20+	341	¥	70	¥	10	458
Somerville	All Ages ²	571	103	176	75	24	949
	<18	8	**	8	0	**	18
	<20	29	6	26	**	**	65
	20+	542	97	150	¥	¥	884
Southbridge	All Ages ²	146	**	65	**	3	219
	<18	10	0	13	0	0	23
	<20	23	**	20	**	0	44
	20+	123	**	45	**	3	175
Springfield	All Ages ²	821	548	910	65	39	2,383
	<18	25	56	114	**	**	198
	<20	96	122	266	6	6	496
	20+	725	426	644	59	33	1,887
Taunton	All Ages ²	688	34	52	6	15	795
	<18	17	**	**	0	3	25
	<20	61	**	16	**	3	83
	20+	627	¥	36	¥	12	712
Worcester	All Ages ²	1,392	245	611	169	56	2,473
	<18	31	11	68	**	**	118
	<20	105	27	152	9	13	306
	20+	1,287	218	459	160	43	2,167

Source: Registry of Vital Records and Statistics, MDPH, BHRSE, 1999

* Non-Hispanic

** Information in cells with values 1-4 (excluding the "Other/Unknown" cells) is suppressed when births are cross-classified by age group and race/ethnicity in order to preserve the confidentiality of these cases. In these instances, additional cells with values less than 5 which enable calculation of the number of cases are also suppressed.

¥ These cells have values that are 5 and greater, but the numbers were suppressed to prevent inference of the value of the suppressed cell containing 1-4 cases.

¹ 25 communities with the greatest number of births to teens ages 15-19

² Includes births of unknown maternal age

³ Total resident births for each community

Table 26.
Birth Characteristics among Teen Births under Age 20 for Selected
Communities¹: Massachusetts: 1999

Community	Birthweight <2500 g	Adequacy of Care ²			Multiparous ³	
		Adequate	Intermediate	Inadeq/ None		
	Percent ⁴	Percent ⁴	Percent ⁴	Percent ⁴	Number	Percent ⁴
Massachusetts	9.0	59.2	31.4	9.4	912	16.3
Boston	9.3	70.3	22.9	6.7	109	14.1
Brockton	9.2	46.2	41.0	12.7	33	19.1
Cambridge	4.5	59.1	34.1	6.8	10	22.7
Chelsea	10.9	50.0	33.7	16.3	14	15.2
Chicopee	12.5	52.4	33.3	14.3	11	17.2
Fall River	9.2	61.6	27.2	11.3	27	17.8
Fitchburg	8.6	66.3	26.1	7.6	22	23.4
Framingham	5.6	81.5	16.7	1.9	5	9.3
Haverhill	11.8	60.0	31.8	8.2	10	11.8
Holyoke	8.7	74.5	19.3	6.2	45	30.2
Lawrence	7.9	45.4	37.1	17.5	58	20.7
Leominster	13.3	61.7	26.7	11.7	10	16.7
Lowell	9.2	59.3	28.8	11.9	48	20.2
Lynn	11.2	54.2	32.4	13.4	33	18.4
Methuen	2.4	52.4	38.1	9.5	5	11.9
New Bedford	7.6	53.8	37.7	8.5	41	18.3
Pittsfield	12.5	39.6	45.8	14.6	10	20.8
Plymouth	2.9	64.7	32.4	2.9	5	14.7
Quincy	11.4	88.6	5.7	5.7	3	**
Salem	2.2	58.7	30.4	10.9	8	17.4
Somerville	0.0	61.5	29.2	9.2	5	7.7
Southbridge	9.1	72.7	25.0	2.3	7	15.9
Springfield	10.7	53.0	36.4	10.6	128	25.8
Taunton	8.4	60.2	33.7	6.0	16	19.3
Worcester	8.5	50.0	42.8	7.2	68	22.2

Source: Registry of Vital Records and Statistics, MDPH, BHRSE, 1999

** Calculations based on 1-4 events are excluded.

¹ Adequacy of Prenatal Care is determined by a calculation that combines trimester of prenatal care registration with the number of prenatal care visits (see Technical Notes and Glossary for further information and definitions).

² 25 communities with the greatest number of births to teens ages 15-19 in 1999

³ Multiparous mothers have had at least one previous live birth.

⁴ Percentages exclude cases with unknown values for these categories.

Table 27.
Expected Educational Attainment and In-Hospital Paternity¹
Acknowledgment among Teen Mothers under Age 20 for Selected
Communities² Massachusetts: 1999

Community	Behind Grade Level ³		Paternity Acknowledgment
	Number	Percent	Percent
Massachusetts	1,771	31.7	65.8
Boston	219	28.3	53.8
Brockton	62	35.8	58.8
Cambridge	11	25.0	56.8
Chelsea	42	45.7	67.1
Chicopee	17	26.6	78.9
Fall River	58	38.4	70.6
Fitchburg	34	36.2	60.0
Framingham	14	25.9	68.4
Haverhill	25	29.4	69.2
Holyoke	78	52.7	75.2
Lawrence	106	38.0	73.0
Leominster	23	38.3	79.6
Lowell	106	44.5	68.7
Lynn	56	31.3	58.8
Methuen	11	26.2	61.1
New Bedford	80	35.7	66.2
Pittsfield	22	45.8	59.1
Plymouth	10	29.4	78.8
Quincy	3	8.6	75.0
Salem	12	26.1	69.8
Somerville	28	43.8	55.2
Southbridge	15	34.1	73.2
Springfield	176	35.5	59.9
Taunton	25	30.1	69.3
Worcester	110	35.9	65.8

Source: Registry of Vital Records and Statistics, MDPH, BHRSE, 1999

¹ Paternity acknowledgment: Voluntary self-acknowledgment by fathers or acknowledgment through legal action. These data reflect data collected in hospitals at time of birth only (see Glossary for further explanation).

² 25 communities with the greatest number of births to teens ages 15-19

³ "Behind Grade Level" is defined as two or more grades behind the maximum expected age for a grade at the time of delivery (see Glossary for further explanation).

IV.

*Birth Characteristics for
All 351 MA Communities
and the 27 Community
Health Network Areas*

Table 28.
Number of Resident Births by Mother's Age and Prenatal Care
Characteristics for 351 Massachusetts Communities: 1999

Community	All Ages	Number of Births		Prenatal Care (<20 Years)		
	Number of Births	< 18 Years	< 20 Years	Number Began in 1st Trimester	Number Paid by Public Funds ¹	Number Paid by HMO Funds ²
Massachusetts	80,866	1,926	5,588	3,596	3,999	1,195
Abington	189	1	9	7	5	**
Acton	261	1	2	**	0	**
Acushnet	96	0	5	**	**	0
Adams	78	2	9	7	8	**
Agawam	279	2	11	6	8	**
Alford	1	0	0	0	0	0
Amesbury	236	6	19	11	11	7
Amherst	175	3	9	5	8	**
Andover	354	0	3	**	**	0
Arlington	560	0	5	**	**	**
Ashburnham	60	1	5	5	**	**
Ashby	34	2	3	**	**	**
Ashfield	17	0	0	0	0	0
Ashland	252	1	2	**	**	0
Athol	118	8	17	7	13	**
Attleboro	562	11	33	23	19	10
Auburn	158	1	7	**	**	**
Avon	45	0	0	0	0	0
Ayer	117	1	3	**	0	**
Barnstable	479	13	28	11	20	5
Barre	61	1	5	**	**	**
Becket	14	0	1	**	**	**
Bedford	203	0	1	**	**	**
Belchertown	164	5	12	10	7	**
Bellingham	197	3	9	8	**	5
Belmont	280	0	3	**	**	**
Berkley	99	3	7	5	**	6
Berlin	48	0	3	**	**	**
Bernardston	23	0	4	**	**	0
Beverly	487	4	25	16	14	11
Billerica	556	6	14	9	7	**
Blackstone	101	5	9	6	**	**
Blandford	12	0	0	0	0	0
Bolton	70	0	0	0	0	0
Boston	8,017	283	775	573	621	112
Bourne	242	3	9	8	7	**

Community	All Ages	Number of Births		Prenatal Care (<20 Years)		
	Number of Births	< 18 Years	< 20 Years	Number Began in 1st Trimester	Number Paid by Public Funds ¹	Number Paid by HMO Funds ²
Boxborough	62	1	2	**	**	**
Boxford	96	0	0	0	0	0
Boylston	42	0	1	**	**	**
Braintree	447	5	12	11	5	6
Brewster	61	1	2	**	**	0
Bridgewater	303	4	7	**	**	**
Brimfield	34	1	2	0	**	0
Brockton	1,451	61	173	86	124	42
Brookfield	38	1	2	0	**	**
Brookline	589	1	2	**	**	0
Buckland	17	0	1	**	**	**
Burlington	323	0	2	**	0	**
Cambridge	1,062	6	44	27	28	8
Canton	288	0	1	**	**	**
Carlisle	64	0	0	0	0	0
Carver	130	1	5	**	0	**
Charlemont	11	0	1	**	**	**
Charlton	156	4	5	**	**	**
Chatham	39	0	0	0	0	0
Chelmsford	395	3	7	6	**	**
Chelsea	641	35	92	47	76	12
Cheshire	26	2	3	**	**	**
Chester	15	0	2	**	**	**
Chesterfield	10	0	0	0	0	0
Chicopee	595	27	64	35	44	12
Chilmark	6	0	0	0	0	0
Clarksbury	16	0	1	**	**	**
Clinton	154	3	7	6	**	**
Cohasset	106	0	0	0	0	0
Colrain	11	1	1	**	**	**
Concord	158	0	0	0	0	0
Conway	12	0	0	0	0	0
Cummington	9	0	0	0	0	0
Dalton	69	2	5	**	**	0
Danvers	269	2	7	5	5	**
Dartmouth	229	3	12	6	**	8
Dedham	285	1	10	9	**	5
Deerfield	53	1	2	**	**	0
Dennis	136	3	12	6	9	**
Dighton	66	1	7	6	**	**
Douglas	101	2	4	0	**	**
Dover	68	0	0	0	0	0
Dracut	360	5	17	12	10	5
Dudley	100	0	5	**	**	**

Community	All Ages	Number of Births		Prenatal Care (<20 Years)		
	Number of Births	< 18 Years	< 20 Years	Number Began in 1st Trimester	Number Paid by Public Funds ¹	Number Paid by HMO Funds ²
Dunstable	40	0	0	0	0	0
Duxbury	192	1	2	**	**	0
East Bridgewater	183	1	1	**	**	**
East Brookfield	27	0	3	**	0	**
East Longmeadow	133	0	3	**	**	**
Eastham	39	0	2	**	**	0
Easthampton	186	5	17	11	13	**
Easton	278	1	5	**	0	**
Edgartown	49	0	3	**	**	0
Egremont	8	0	0	0	0	0
Erving	15	0	0	0	0	0
Essex	34	0	2	**	**	**
Everett	520	11	33	12	24	5
Fairhaven	139	2	6	**	**	**
Fall River	1,097	51	152	96	108	30
Falmouth	275	7	19	7	11	**
Fitchburg	566	33	94	63	71	20
Florida	3	0	0	0	0	0
Foxborough	236	2	5	**	**	**
Framingham	1,000	19	54	44	36	17
Franklin	504	0	5	**	**	**
Freetown	85	1	4	**	**	**
Gardner	235	11	32	25	20	8
Gay Head	2	0	0	0	0	0
Georgetown	121	0	3	0	**	**
Gill	16	0	0	0	0	0
Gloucester	350	9	17	10	8	9
Goshen	2	0	0	0	0	0
Gosnold	1	0	0	0	0	0
Grafton	207	1	5	**	**	**
Granby	66	1	1	**	**	**
Granville	17	1	1	**	**	**
Greenfield	193	8	26	20	18	8
Groton	165	0	0	0	0	0
Groveland	83	0	0	0	0	0
Grt Barrington	75	1	6	5	5	**
Hadley	35	2	4	**	**	**
Halifax	105	2	6	**	**	**
Hamilton	115	0	0	0	0	0
Hampden	49	0	2	**	**	0
Hancock	5	0	0	0	0	0
Hanover	191	0	0	0	0	0
Hanson	129	1	10	7	6	**
Hardwick	34	0	1	**	**	**

Community	All Ages	Number of Births		Prenatal Care (<20 Years)		
	Number of Births	< 18 Years	< 20 Years	Number Began in 1st Trimester	Number Paid by Public Funds ¹	Number Paid by HMO Funds ²
Harvard	50	0	0	0	0	0
Harwich	90	0	1	**	**	**
Hatfield	26	0	0	0	0	0
Haverhill	921	30	85	53	62	19
Hawley	1	0	0	0	0	0
Heath	6	0	0	0	0	0
Hingham	279	2	5	**	**	**
Hinsdale	31	0	2	**	0	**
Holbrook	116	2	6	**	**	**
Holden	166	2	3	**	0	**
Holland	23	0	1	**	**	**
Holliston	153	0	1	**	**	**
Holyoke	603	58	149	112	129	12
Hopedale	73	0	0	0	0	0
Hopkinton	200	0	1	**	**	**
Hubbardston	64	2	3	**	**	**
Hudson	260	5	8	7	**	**
Hull	112	1	6	**	**	**
Huntington	23	1	3	**	**	0
Ipswich	162	2	8	6	**	**
Kingston	180	1	3	**	0	**
Lakeville	123	0	5	**	**	**
Lancaster	68	0	1	**	**	**
Lanesborough	25	0	2	0	**	**
Lawrence	1,411	102	280	155	232	28
Lee	53	0	2	**	**	**
Leicester	121	2	5	**	**	**
Lenox	42	1	1	**	**	**
Leominster	575	19	60	39	41	18
Leverett	12	0	0	0	0	0
Lexington	241	0	1	**	**	**
Leyden	5	0	**	**	**	0
Lincoln	100	0	2	**	0	**
Littleton	125	0	3	**	0	**
Longmeadow	136	1	2	**	**	**
Lowell	1,676	104	238	153	195	37
Ludlow	206	3	9	8	**	**
Lunenburg	108	1	5	**	**	**
Lynn	1,387	67	179	108	150	25
Lynnfield	131	0	1	**	**	**
Malden	788	6	33	19	23	7
Manchester	48	0	1	**	**	**
Mansfield	397	4	7	5	6	**
Marblehead	283	0	2	**	**	0

Community	All Ages	Number of Births		Prenatal Care (<20 Years)		
	Number of Births	< 18 Years	< 20 Years	Number Began in 1st Trimester	Number Paid by Public Funds ¹	Number Paid by HMO Funds ²
Marion	51	0	0	0	0	0
Marlborough	562	7	26	16	14	11
Marshfield	402	1	4	**	**	**
Mashpee	131	5	11	5	5	**
Mattapoisett	71	0	1	**	**	**
Maynard	135	1	5	5	0	**
Medfield	162	0	0	0	0	0
Medford	638	5	11	9	5	6
Medway	203	0	0	0	0	0
Melrose	359	1	3	**	**	**
Mendon	77	0	1	**	**	**
Merrimac	82	1	1	**	**	**
Methuen	537	15	42	25	30	9
Middleborough	261	4	15	7	12	**
Middlefield	3	0	0	0	0	0
Middleton	86	0	1	**	**	**
Milford	360	10	23	16	16	7
Millbury	135	1	6	**	0	5
Millis	150	1	1	**	**	**
Millville	42	0	0	0	0	0
Milton	325	1	6	5	**	5
Monroe	1	0	0	0	0	0
Monson	105	0	3	**	**	0
Montague	110	2	9	6	6	**
Monterey	14	1	1	**	**	**
Montgomery	3	0	0	0	0	0
Mt Washington	1	0	0	0	0	0
Nahant	34	0	0	0	0	0
Nantucket	122	1	6	**	**	**
Natick	472	2	6	6	**	**
Needham	382	0	2	**	0	**
New Ashford	3	0	0	0	0	0
New Bedford	1,267	75	224	129	179	25
New Braintree	10	1	1	**	**	**
New Marlborough	21	0	0	0	0	0
New Salem	13	0	0	0	0	0
Newbury	84	0	1	**	**	**
Newburyport	214	7	8	**	8	0
Newton	874	1	8	**	**	**
Norfolk	133	0	0	0	0	0
North Adams	164	7	30	21	22	**
North Andover	366	1	4	**	**	**
North Attleboro	382	2	14	11	7	6
North Brookfield	42	2	5	**	**	**

Community	All Ages	Number of Births		Prenatal Care (<20 Years)		
	Number of Births	< 18 Years	< 20 Years	Number Began in 1st Trimester	Number Paid by Public Funds ¹	Number Paid by HMO Funds ²
North Reading	181	0	1	**	**	**
Northampton	223	7	13	11	10	**
Northborough	187	1	4	**	0	**
Northbridge	197	4	15	10	8	7
Northfield	33	0	0	0	0	0
Norton	261	1	9	9	**	5
Norwell	109	0	1	**	**	**
Norwood	353	3	4	**	**	0
Oak Bluffs	48	0	2	0	**	0
Oakham	16	0	1	**	**	**
Orange	80	3	13	8	9	**
Orleans	28	1	1	**	**	**
Otis	13	0	1	**	**	**
Oxford	149	5	12	7	8	**
Palmer	130	3	19	11	14	**
Paxton	37	0	1	**	**	**
Peabody	561	7	28	15	16	11
Pelham	14	0	1	**	**	**
Pembroke	282	4	11	8	**	6
Pepperell	168	2	6	6	0	**
Peru	5	0	**	**	**	0
Petersham	8	0	0	0	0	0
Phillipston	13	1	1	**	**	**
Pittsfield	491	12	48	29	42	5
Plainfield	3	0	**	0	0	0
Plainville	95	0	3	**	**	0
Plymouth	716	14	34	23	20	13
Plympton	29	0	1	**	**	**
Princeton	35	0	1	**	**	**
Provincetown	19	1	1	**	**	**
Quincy	1,083	14	35	31	21	10
Randolph	408	5	21	19	11	9
Raynham	156	2	12	8	10	**
Reading	317	0	0	0	0	0
Rehoboth	116	2	7	**	**	**
Revere	622	7	29	17	22	5
Richmond	35	2	7	**	**	**
Rochester	45	1	3	**	**	**
Rockland	253	5	16	13	9	7
Rockport	63	3	6	**	**	**
Rowe	5	0	0	0	0	0
Rowley	65	0	1	**	**	**
Royalston	7	**	**	0	**	0
Russell	26	0	3	**	**	**

Community	All Ages	Number of Births		Prenatal Care (<20 Years)		
	Number of Births	< 18 Years	< 20 Years	Number Began in 1st Trimester	Number Paid by Public Funds ¹	Number Paid by HMO Funds ²
Rutland	86	0	6	**	**	**
Salem	504	13	46	31	38	6
Salisbury	90	1	8	5	5	**
Sandisfield	7	0	0	0	0	0
Sandwich	211	0	5	**	**	**
Saugus	253	0	5	**	**	**
Savoy	7	0	0	0	0	0
Scituate	248	0	2	**	**	**
Seekonk	125	4	11	6	**	0
Sharon	180	2	3	**	**	0
Sheffield	28	0	0	0	0	0
Shelburne	13	2	3	**	**	0
Sherborn	58	0	0	0	0	0
Shirley	76	1	6	**	**	**
Shrewsbury	464	3	10	6	5	5
Shutesbury	18	0	0	0	0	0
Somerset	134	2	11	6	6	**
Somerville	949	18	65	42	40	10
South Hadley	132	3	9	5	5	**
Southampton	47	0	0	0	0	0
Southborough	147	0	0	0	0	0
Southbridge	219	23	44	35	32	11
Southwick	89	0	2	**	**	**
Spencer	154	9	18	15	8	10
Springfield	2,383	198	496	297	411	58
Sterling	83	2	3	**	**	**
Stockbridge	12	0	1	**	**	**
Stoneham	267	0	4	**	**	**
Stoughton	315	6	16	10	9	6
Stow	95	0	0	0	0	0
Sturbridge	91	2	3	**	**	**
Sudbury	263	0	1	**	**	**
Sunderland	30	1	2	**	0	0
Sutton	86	1	3	**	**	**
Swampscott	181	0	2	**	**	**
Swansea	139	3	11	7	**	**
Taunton	795	25	83	53	63	15
Templeton	76	2	7	**	**	**
Tewksbury	393	3	9	**	**	**
Tisbury	41	0	2	**	**	0
Tolland	3	0	0	0	0	0
Topsfield	55	0	0	0	0	0
Townsend	109	0	2	**	**	**
Truro	9	0	0	0	0	0

Community	All Ages	Number of Births		Prenatal Care (<20 Years)		
	Number of Births	< 18 Years	< 20 Years	Number Began in 1st Trimester	Number Paid by Public Funds ¹	Number Paid by HMO Funds ²
Tyngsborough	176	1	4	**	**	**
Upton	112	0	0	0	0	0
Uxbridge	182	1	4	**	**	**
Wakefield	334	0	1	**	**	**
Wales	23	0	2	**	**	**
Walpole	278	1	4	**	**	**
Waltham	681	11	31	21	19	10
Ware	108	2	11	8	**	6
Wareham	235	13	25	17	16	8
Warren	45	1	6	5	**	**
Warwick	10	2	2	0	**	**
Washington	1	0	**	**	**	0
Watertown	371	0	6	**	**	0
Wayland	150	0	0	0	0	0
Webster	207	3	18	12	10	7
Wellesley	340	0	1	**	**	**
Wellfleet	20	0	0	0	0	0
Wendell	6	0	0	0	0	0
Wenham	38	0	0	0	0	0
West Boylston	64	0	3	**	**	**
West Bridgewater	77	0	2	**	**	**
West Brookfield	43	1	3	**	**	**
West Newbury	50	1	1	**	**	**
West Springfield	330	9	30	22	22	6
West Stockbridge	10	0	0	0	0	0
West Tisbury	20	0	1	**	**	**
Westborough	213	2	0	**	**	**
Westfield	437	2	27	15	20	5
Westford	278	0	3	**	**	0
Westhampton	10	0	0	0	0	0
Westminster	63	0	1	**	**	**
Weston	117	0	0	0	0	0
Westport	111	3	8	**	5	**
Westwood	202	0	1	**	**	**
Weymouth	752	9	31	29	20	10
Whately	6	0	0	0	0	0
Whitman	213	3	9	**	**	5
Wilbraham	118	0	0	0	0	0
Williamsburg	24	1	1	**	**	**
Williamstown	24	0	0	0	0	0
Wilmington	330	2	10	**	**	5
Winchendon	126	6	17	11	10	5
Winchester	271	0	2	**	**	**
Windsor	14	0	1	**	**	**

Community	All Ages	Number of Births		Prenatal Care (<20 Years)		
	Number of Births	< 18 Years	< 20 Years	Number Began in 1st Trimester	Number Paid by Public Funds ¹	Number Paid by HMO Funds ²
Winthrop	196	2	5	**	**	0
Woburn	498	6	18	11	9	8
Worcester	2,473	118	306	193	225	68
Worthington	11	0	0	0	0	0
Wrentham	161	2	3	**	**	**
Yarmouth	213	4	16	10	11	**
Unknown	2	0	0	0	0	0

Source: Registry of Vital Records and Statistics, MDPH, BSHRE, 1999

** For communities where "Number of Births to All Ages" is less than 10, cells with values of 1-4 are suppressed. For all communities, "Prenatal Care (< 20 Years)" cells with values of 1-4 suppressed. For communities where the number of teen births ("<20 Years") equals one, prenatal care cells are suppressed. Cells have also been suppressed in those instances where the publication of cell values would lead to inadvertent identification of individuals.

¹ Public: Mass Health (Medicaid), Medicare, Healthy Start, free care and other government programs. Free care was included in this category for the first time in 1997 (see Technical Notes); therefore data are not comparable with prior reports.

² HMO: Health Maintenance Organizations includes both public and private HMO participants.

Table 29.
Number of Births by Mother's Age and Prenatal Care Characteristics
27 Community Health Network Areas¹: 1999

Community Health Network Areas (CHNA)	All Ages	Teens				
	Number of Births	Number of Births		Prenatal Care (< 20 Years)		
		< 18 Years	< 20 Years	Number Began in 1st Trimester	Number Paid by Public Funds ²	Number Paid by HMO Funds ³
Massachusetts	80,866	1,926	5,588	3,596	3,999	1,195
1 Community Health Network of Berkshire County	1,296	30	123	79	92	21
2 Upper Valley Health Web (Franklin County)	863	30	84	53	58	21
3 Partnership for Health in Hampshire County (Greater Northampton Area)	1,248	29	79	51	51	20
3.1 Four (For) Communities (Greater Holyoke)	1,879	91	254	175	201	32
4 The Community Health Connection (Greater Springfield Area)	3,813	214	572	348	464	75
5 Greater Southbridge Community Health Network	1,351	52	129	90	76	49
6 Community Partners for Health (Greater Milford Area)	2,235	26	73	46	36	32
7 Community Health Partners of Greater Metro West (Greater Framingham Area)	5,362	44	128	99	75	48
8 Community Wellness Coalition (Greater Worcester Area)	3,867	128	347	216	238	94
9 Fitchburg/Gardner Community Health Network	3,257	88	273	185	173	81
10 Greater Lowell Community Health Network	3,874	122	292	189	222	53
11 Greater Lawrence Community Health Network	2,754	118	330	188	267	40
12 Greater Haverhill Community Health Network	2,042	46	127	75	88	31
13 Greater Beverly/Gloucester Community Health Network	1,352	18	59	38	30	27
14 North Shore Community Health Network	3,603	89	270	165	214	47
15 Greater Woburn/Concord/Littleton Community Health Network	2,636	10	43	27	15	24
16 North Suburban Health Alliance (Medford/Malden/Melrose Area)	3,404	23	86	47	56	23

Table 29. (Continued)
Number of Births by Mother's Age and Prenatal Care Characteristics
27 Community Health Network Areas¹: 1999

Community Health Network Areas (CHNA)		All Ages	Teens				
		Number of Births	Number of Births		Prenatal Care (< 20 Years)		
			< 18 Years	< 20 Years	Number Began in 1st Trimester	Number Paid by Public Funds ²	Number Paid by HMO Funds ³
17	Greater Cambridge/ Somerville Community Health Network	3,222	24	123	77	77	21
18	West Suburban Health Network (Newton/Waltham Area)	2,949	13	53	35	27	18
19	Alliance for Community Health (City of Boston/Chelsea/Revere/Winthrop Area)	10,065	328	903	640	724	129
20	Blue Hills Community Health Alliance (Greater Quincy Area)	4,690	42	127	111	71	47
22	Greater Brockton Community Health Network	3,170	79	228	120	150	68
23	South Shore Community Partners in Prevention (Greater Plymouth Area)	2,609	30	92	64	47	41
24	Health and Education Response (Greater Attleboro/Taunton Area)	3,343	59	210	139	134	51
25	Partners for a Healthier Community (Greater Fall River Area)	1,481	59	182	112	123	36
26	Greater New Bedford Community Health Network	2,218	95	280	165	211	46
27	Cape and Islands Community Health Network	2,281	39	121	62	79	20
	Unknown	2	0	0	0	0	

Source: Registry of Vital Records and Statistics, MDPH, BSHRE, 1999

¹ While the CHNA number designations are no longer used, they are provided in this table to correspond with Community Health Network Area definition and city/town groupings found in the Appendix.

² Public: Mass Health (Medicaid), Medicare, Healthy Start, free care and other government programs. Free care was included in this category for the first time in 1997 (see Technical Notes); therefore data are not comparable with prior reports.

³ HMO: Health Maintenance Organizations includes both public and private HMO participants.

Table 30.
Smoking Rates by Mother's Age, Ranked by Teen Smoking Rates,
27 Community Health Network Areas¹: 1999

		Under 20	20+ Years	All Ages
	Massachusetts Total	20.3	10.0	10.7
1	Community Health Network of Berkshire County	43.1	21.0	23.1
2	Upper Valley Health Web (Franklin County)	42.9	15.8	18.4
27	Cape and Islands Community Health Network	36.4	13.2	14.5
5	Greater Southbridge Community Health Network	31.8	19.6	20.8
23	South Shore Community Partners in Prevention (Greater Plymouth Area)	31.5	9.4	10.2
12	Greater Haverhill Community Health Network	29.9	9.6	10.9
6	Community Partners for Health (Greater Milford Area)	27.4	8.0	8.6
25	Partners for a Healthier Community (Gr. Fall River Area)	26.9	19.9	20.8
10	Greater Lowell Community Health Network	24.7	10.6	11.7
9	Fitchburg/Gardner Community Health Network	24.5	12.7	13.7
3.1	Four (For) Communities (Greater Holyoke)	24.4	18.3	19.1
26	Greater New Bedford Community Health Network	24.3	17.5	18.4
13	Greater Beverly/Gloucester Community Health Network	23.7	8.5	9.2
15	Greater Woburn/Concord/Littleton Community Health Network	23.3	4.3	4.6
20	Blue Hills Community Health Alliance (Greater Quincy Area)	22.0	7.2	7.6
3	Partnership for Health in Hampshire County (Greater Northampton Area)	21.5	10.2	10.9
24	Health and Education Response (Greater Attleboro/Taunton)	21.4	11.6	12.2
8	Community Wellness Coalition (Greater Worcester Area)	21.3	14.3	15.0
4	The Community Health Connection (Greater Springfield Area)	19.8	16.3	16.8
22	Greater Brockton Community Health Network	19.7	12.0	12.6
16	North Suburban Health Alliance (Medford/ Malden/Melrose)	18.6	7.0	7.3
14	North Shore Community Health Network	16.3	11.2	11.5
18	West Suburban Health Network (Newton/Waltham Area)	15.1	3.2	3.4
17	Greater Cambridge/ Somerville Community Health Network	14.6	4.1	4.5
7	Community Health Partners of Greater Metro West (Greater Framingham Area)	11.7	4.7	4.8
19	Alliance for Community Health (City of Boston/Chelsea/Revere/Winthrop Area)	9.3	7.1	7.3
11	Greater Lawrence Community Health Network	7.0	7.6	7.6

Source: Registry of Vital Records and Statistics, MDPH, BSHRE, 1999

¹ While the CHNA number designations are no longer used, they are provided in this table to correspond with Community Health Network Area definition and city/town groupings found in the Appendix.

Appendix

Technical Notes

1. DATA CAUTIONS

- Limitations of small numbers: In cases where there are small numbers of teen births, especially at the city/town level and by race/ethnicity or age, small changes in the numbers from year to year will produce large changes in percentages, making the differences appear more important than they are in reality. Whether or not the small numbers are suppressed, rates and trends based upon small numbers should be interpreted cautiously.
- Differences with previously published data: Numbers and rates in this publication may differ from those contained in previous reports due to updates of birth and death certificate files, differences in the formulas used in calculating rates, and/or the use of updated population estimates for 1991-1997 produced by the Massachusetts Institute for Social and Economic Research (MISER) in November, 1999. (See Foreword for details)
- Missing data: Unless otherwise stated, percentages are based on the number of births or mothers that have *known* information regarding a demographic or birth characteristic.
- Self-reported data: Many items used in this publication, such as maternal smoking, race/ethnicity, and type of health insurance coverage, are self-reported. Self-reported data are subject to the usual limitations of this type of information.
- Calculation of birth rates: Birth rates (number of births per 1,000 women) are calculated using Census counts of the resident population of Massachusetts 1990 and population estimates for 1991-1998. Because the Census is taken only once every ten years, the annual numbers of residents in each city/town and in the state for non-Census years are estimates, not actual counts. Therefore, the numbers of resident women may be underestimated (resulting in inflated birth rates), or overestimated (resulting in lower birth rates). The teen birth rates for 1991-1997 data presented in this report were calculated using updated population estimates for 1991-1997 (see "New Population Data" in Foreword for further information).
- Calculation of infant mortality rates (IMR) for teenage mothers: Death certificates record only the age of the decedent, not that of the mother. To know which infants who died before their first birthday had a teenage or adult mother, it is necessary to link the infant death certificates to their birth certificates since the mother's age is recorded on the birth certificate. Each year, the Registry of Vital Records and Statistics creates such a file, called the Linked Birth/Infant Death file. All births in a calendar year are linked to all infant deaths occurring within one year of the date of birth, which may be in the same calendar year as the year of birth or in the following year. For example, if an infant is born on June 30, 1998 and dies on March 1, 1999, that infant would be included in the 1998 linked file because he/she was born in 1998 and died before reaching one year of age. The 1999 infant mortality rate for women under the age of 20 will not be available until the 1999 linked birth/infant death file is

complete. Therefore, the 1998 maternal age-specific infant mortality rate is the most recent available and is included in this report.

Since infant mortality rates in this report are calculated using data from the linked birth/infant death file, they are not comparable to the rates published in *Massachusetts: Births*, which uses the standard method to calculate IMRs (number of infant deaths in a year per 1,000 live births delivered in the same year).

- Change in the calculation of expected educational attainment: Prior to 1997, the expected level of educational attainment (see *Glossary* for further explanation) was calculated differently for US-born and foreign-born teenage mothers. In this report, the same age-for-grade cutoffs were used regardless of maternal place of birth.
- Change in gestational age categories: Beginning with the 1997 report, full-term infants were defined as having been born between 37 and 42 completed weeks of gestation. Prior to 1997, full-term infants were defined as having gestational ages between 37 and 41 completed weeks of gestation. Therefore, caution should be used when comparing this year's gestational data with data prior to 1997.
- Change in categorization of prenatal care source of payment: Beginning with the 1997 report, free care was included in public source of payment for prenatal care. Prior to 1997, free care was included in other sources of payment. Beginning with this report, the HMO category will represent a third group of prenatal care source of payment. Therefore, caution should be used in comparing 1998 and 1999 data for private source of payment with previous years' data.
- Community Health Network Areas (CHNAs): The data published in this report reflect the new definitions of CHNAs instituted in January 1997. (See *Glossary* for further definition.)

2. CHANGES IN THE COLLECTION OF RACE AND ETHNICITY INFORMATION:

Assignment of an Infant's Race/Ethnicity: Prior to 1989, the race/ethnicity of an infant was assigned by combining information on the race/ethnicity of the mother and the race/ethnicity of the father. Since 1989, Massachusetts has followed the recommendation of the National Center for Health Statistics of classifying births according to the self-reported race/ethnicity of the mother. Therefore, beginning in 1989, the race/ethnicity of an infant is identical to the self-reported race/ethnicity of the infant's mother.

Addition of Information on Hispanic Ethnicity: Beginning in 1986, an identifier for Hispanic ethnicity was added to the birth certificate; in 1989, an identifier for Hispanic ethnicity was added to the death certificate. Prior to these changes, most Hispanics were included with whites and it was not possible to accurately calculate Hispanic-specific rates of natality and mortality.

3. POPULATION ESTIMATES

The Massachusetts Institute for Social and Economic Research (MISER), is the source of all population estimates used in this report to calculate population based rates (for example, teen birth rates). The most recent year for which MISER population estimates is available is 1998. Therefore, all 1999 birth rates are calculated using 1998 MISER population estimates (released in September 2000) as denominators. Furthermore, some differences may exist between previously published 1998 birth rates due to the updating of the 1998 rates with 1998 denominators.

Glossary

Adequacy of Prenatal Care: The Index of Adequacy of Prenatal Care (based on the Kessner Index) has five categories (adequate, intermediate, inadequate, no prenatal care, and unknown), based on the trimester in which prenatal care began and the number of prenatal visits. The general classification scheme for full-term infants is as follows:

Category	Trimester Care Began	Number of Visits
Adequate	1	9 or more
Intermediate	1	5-8
	2	5 or more
	1	1-4
Inadequate	2	1-4
	3	1 or more
No prenatal care	--	0
Unknown	unknown	unknown

The classification is adjusted for gestational age to allow for proper classification of premature infants. (*See Foreword.*)

Birth Rate: See Teen Birth Rate.

Birthweight: The weight of an infant recorded at the time of delivery. It may be recorded in either pounds/ounces or grams. If recorded in pounds/ounces, it is converted to grams for use in this report.

1 pound = 453.6 grams

1,000 grams = 2 pounds and 3 ounces

Birthweight Categories:

Normal Birthweight (NBW):	An infant's weight of 2,500 grams (5.5 pounds) or more
Low Birthweight (LBW):	An infant's weight of less than 2,500 grams (5.5 pounds)
Very Low Birthweight (VLBW):	An infant's weight of less than 1,500 grams (3.3 pounds)

Community Health Network Area (CHNA): The Department of Public Health, in collaboration with health service providers, coalition members, and interested citizens, has divided the state into 27 areas for community health planning. Coalitions in each CHNA address the health needs of the community through development of strategies, monitoring of outcomes and the progress of the strategies and responses to those health needs. A CHNA is defined as an aggregation of cities and towns (the City of Boston constitutes its own CHNA). The table at the end of the Appendix provides a list of the 351 cities and towns with the corresponding CHNA number.

Education: Education is self-reported on the birth certificate by the mother and indicates the highest grade or total number of years of schooling she has completed.

Ethnicity: Mother's ethnicity is self-reported on the birth certificate.

Glossary (cont.)

Expected Educational Attainment: The maximum expected age of a student in a particular school grade. Teen mothers were classified as being at least one grade behind if they were two or more years older than the maximum expected age for the reported grade level. For example, if a teen is 16 years old and reports she has completed eighth grade, then she is at least one year behind the expected age for that grade. The following age-for-grade cutoffs were used:

<u>Grade</u>	<u>Maximum Expected Age</u>
6th	12
7th	13
8th	14
9th	15
10th	16
11th	17
12th	18

Gestational Age: The duration of pregnancy measured by number of completed weeks gestation. In this publication, the clinical estimate of gestational age has been used for analysis. Clinical gestational age is determined by the attendant at birth or a physician providing postnatal care to the newborn and is reported on the birth certificate. A normal gestational age is defined as delivery between the completion of the 37th and the 42nd week of pregnancy.

Healthy Start: Healthy Start is a Massachusetts-funded program providing services and financing for prenatal care to low-income (up to 200% of the poverty level in 1997) pregnant women who lack health insurance but do not qualify for Mass Health (Medicaid).

Infant Mortality: See Mortality Categories.

Infant Mortality Rate (IMR): See Mortality Rate Categories

Live Birth: A live birth is defined as any infant who breathes or shows any other evidence of life after delivery (such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles), regardless of duration of gestation or birthweight. All figures and tables in this report, showing Massachusetts data, are based on live births to Massachusetts residents (see Resident Birth).

Low Birthweight (LBW): See Birthweight Categories.

Mortality Categories:

Infant Mortality: The death of a child under 1 year of age (≤ 364 days old).

Neonatal Mortality: The death of an infant less than 28 days old.

Post Neonatal Mortality: The death of an infant between 28 and 364 days after birth.

Glossary (cont.)

Mortality Rate Categories:

Infant Mortality Rate (IMR): The death rate among infants less than one year old per 1,000 live births.

Neonatal Mortality Rate (NMR): The death rate among newborns less than 28 days old per 1,000 live births.

Post Neonatal Mortality Rate (PNMR): The death rate among infants 28-364 days old per 1,000 live births.

Mother's Age: Mother's age is computed from her date of birth and the date of delivery.

Multiparous: A multiparous mother is one who has had at least one prior live birth.

Neonatal Mortality: See Mortality Categories.

Neonatal Mortality Rate (NMR): See Mortality Rate Categories.

Normal Birthweight (NBW): See Birthweight Categories.

Parity: The number of live infants ever born to the mother. Parity includes all previous live births as well as the infant named on the birth certificate.

Paternity Acknowledgement: The process by which the paternity of an infant is legally established when the parents are unmarried. As part of the birth registration process, unmarried parents sign an acknowledgement form, and their signatures are notarized. The father's information is then added to the child's birth certificate. Paternity can also be acknowledged at a town clerk's office after the mother and child have been discharged from the hospital. Paternity may be established through legal action or through voluntary acknowledgement in the case of unmarried couples; when a couple is married, the husband is legally considered the infant's father. *Paternity acknowledgement data in this report reflect acknowledgments made in hospitals at the time of birth only.*

Postneonatal Mortality: See Mortality Categories.

Post Neonatal Mortality Rate (PNMR): See Mortality Rate Categories.

Prenatal Care Payment Source: Prenatal care payment source is self-reported by the mother. Four groupings are used in this report:

Private:	Blue Cross/Blue Shield and commercial insurance.
Public:	Mass Health (Medicaid), Healthy Start, Medicare, free care, and other government sources.
HMO:	Health maintenance organizations (HMOs) and other managed care entities. The HMO category may include Mass Health (Medicaid) recipients in managed care programs.
Other:	Any other payment source not included in the previous categories.

Race/Hispanic Ethnicity: Mother's race and Hispanic ethnicity are self-reported. All respondents indicating Hispanic ethnicity will be designated Hispanic regardless of their response to questions concerning racial identity.

Glossary (cont.)

Resident Birth: The birth of an infant whose mother reports her usual place of residence as Massachusetts. In Massachusetts, a resident is a person with a permanent address in one of the 351 cities or towns. Massachusetts resident births include all births that occur among residents of the Commonwealth whether they occur in Massachusetts or elsewhere.

Teen Birth Rate: The number of children born among females ages 15 to 19 divided by the population of females in that age group, multiplied by 1,000.

$$\text{Teen birth rate} = \frac{\text{Number of births to females ages 15-19 years old}}{\text{Number of females ages 15-19 years old in the population}} \times 1000$$

Very Low Birthweight (VLBW): See Birthweight Categories.

1998 Population Estimates of Females Ages 15 to 19 Years Living in the 25 Massachusetts Communities with the Highest Number of Teen Births in 1999

<u>Community</u>	<u>Estimated Number of Females, Ages 15-19 years</u>
<i>Massachusetts</i>	<i>207,452</i>
Boston	18,567
Brockton	2,776
Cambridge	3,038
Chelsea	837
Chicopee	1,726
Fall River	2,841
Fitchburg	1,623
Framingham	1,939
Haverhill	1,654
Holyoke	1,462
Lawrence	2,665
Leominster	1,151
Lowell	3,735
Lynn	2,563
Methuen	1,280
New Bedford	3,054
Pittsfield	1,450
Plymouth	1,749
Quincy	2,013
Salem	1,230
Somerville	1,662
Southbridge	554
Springfield	5,595
Taunton	1,567
Worcester	6,587

Source: 1998 estimates from MISER, September 2000. 1999 estimates are due June 30, 2001. (See Foreword for further information.)

Massachusetts Cities, Towns, Counties, and Community Health Network Areas (CHNAs)

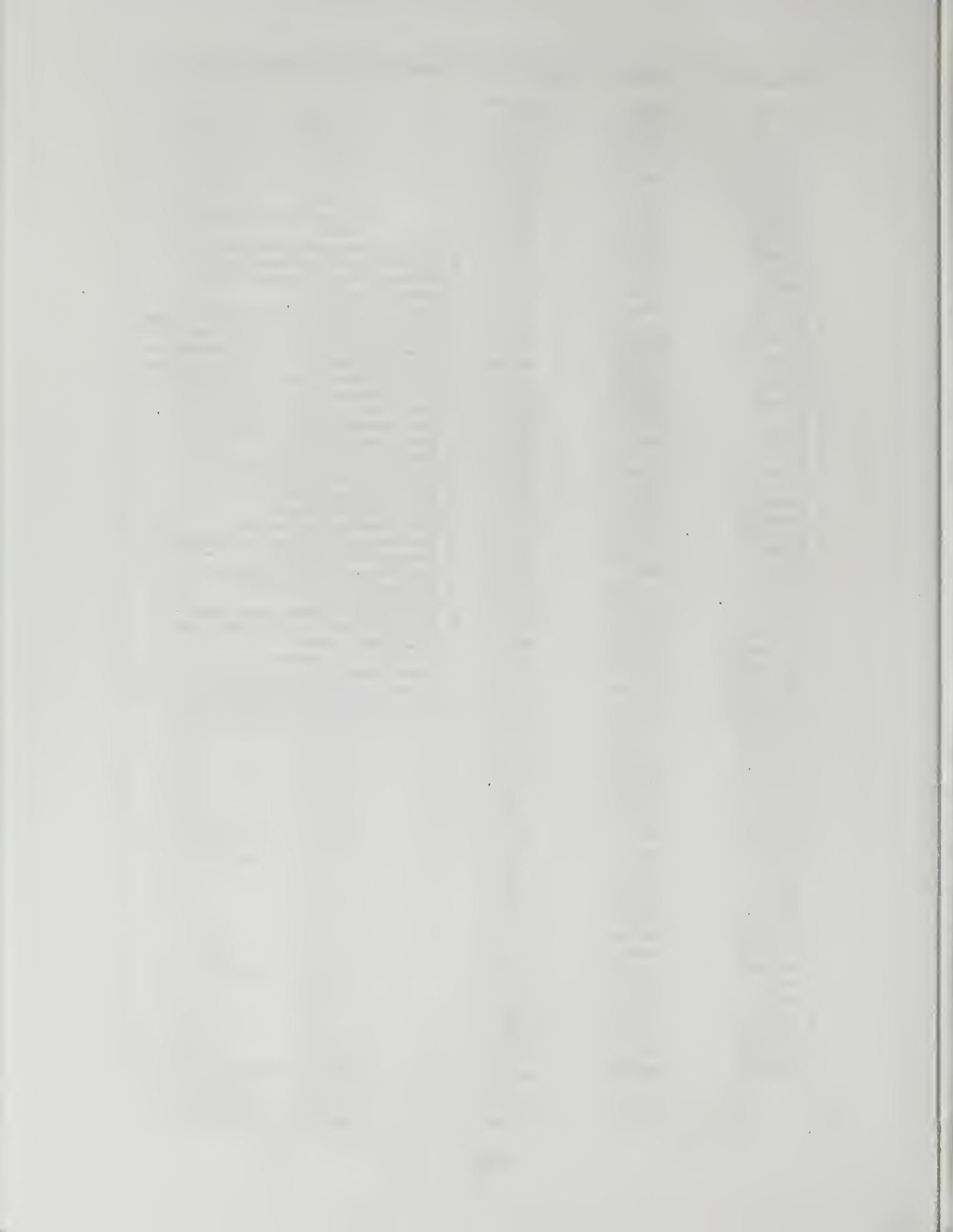
City/Town	County	CHNA	City/Town	County	CHNA
Abington	Plymouth	22	Dartmouth	Bristol	26
Acton	Middlesex	15	Dedham	Norfolk	18
Acushnet	Bristol	26	Deerfield	Franklin	2
Adams	Berkshire	1	Dennis	Barnstable	27
Agawam	Hampden	4	Dighton	Bristol	24
Alford	Berkshire	1	Douglas	Worcester	6
Amesbury	Essex	12	Dover	Norfolk	18
Amherst	Hampshire	3	Dracut	Middlesex	10
Andover	Essex	11	Dudley	Worcester	5
Arlington	Middlesex	17	Dunstable	Middlesex	10
Ashburnham	Worcester	9	Duxbury	Plymouth	23
Ashby	Middlesex	9	East Bridgewater	Plymouth	22
Ashfield	Franklin	2	East Brookfield	Worcester	5
Ashland	Middlesex	7	East Longmeadow	Hampden	4
Athol	Worcester	2	Eastham	Barnstable	27
Attleboro	Bristol	24	Easthampton	Hampshire	3
Auburn	Worcester	8	Easton	Bristol	22
Avon	Norfolk	22	Edgartown	Dukes	27
Ayer	Middlesex	9	Egremont	Berkshire	1
Barnstable	Barnstable	27	Erving	Franklin	2
Barre	Worcester	9	Essex	Essex	13
Becket	Berkshire	1	Everett	Middlesex	16
Bedford	Middlesex	15	Fairhaven	Bristol	26
Belchertown	Hampshire	3	Fall River	Bristol	25
Bellingham	Norfolk	6	Falmouth	Barnstable	27
Belmont	Middlesex	17	Fitchburg	Worcester	9
Berkley	Bristol	24	Florida	Berkshire	1
Berlin	Worcester	9	Foxborough	Norfolk	7
Bernardston	Franklin	2	Frammingham	Middlesex	7
Beverly	Essex	13	Franklin	Norfolk	6
Billerica	Middlesex	10	Freetown	Bristol	26
Blackstone	Worcester	6	Gardner	Worcester	9
Blandford	Hampden	4	Gay Head	Dukes	27
Bolton	Worcester	9	Georgetown	Essex	12
Boston	Suffolk	19	Gill	Franklin	2
Bourne	Barnstable	27	Gloucester	Essex	13
Boxborough	Middlesex	15	Goshen	Hampshire	3
Boxford	Essex	12	Gosnold	Dukes	27
Boylston	Worcester	8	Grafton	Worcester	8
Braintree	Norfolk	20	Granby	Hampshire	3
Brewster	Barnstable	27	Granville	Hampden	4
Bridgewater	Plymouth	22	Great Barrington	Berkshire	1
Brimfield	Hampden	5	Greenfield	Franklin	2
Brockton	Plymouth	22	Groton	Middlesex	9
Brookfield	Worcester	5	Groveland	Essex	12
Brookline	Norfolk	19	Hadley	Hampshire	3
Buckland	Franklin	2	Halifax	Plymouth	23
Burlington	Middlesex	15	Hamilton	Essex	13
Cambridge	Middlesex	17	Hampden	Hampden	4
Canton	Norfolk	20	Hancock	Berkshire	1
Carlisle	Middlesex	15	Hanover	Plymouth	23
Carver	Plymouth	23	Hanson	Plymouth	23
Charlemont	Franklin	2	Hardwick	Worcester	9
Charlton	Worcester	5	Harvard	Worcester	9
Chatham	Barnstable	27	Harwich	Barnstable	27
Chelmsford	Middlesex	10	Hatfield	Hampshire	3
Chelsea	Suffolk	19	Haverhill	Essex	12
Cheshire	Berkshire	1	Hawley	Franklin	2
Chester	Hampden	3.1	Heath	Franklin	2
Chesterfield	Hampshire	3	Hingham	Plymouth	20
Chicopee	Hampden	3.1	Hinsdale	Berkshire	1
Chilmark	Dukes	27	Holbrook	Norfolk	22
Clarksburg	Berkshire	1	Holden	Worcester	8
Clinton	Worcester	9	Holland	Hampden	5
Cohasset	Norfolk	20	Holliston	Middlesex	7
Colrain	Franklin	2	Holyoke	Hampden	3.1
Concord	Middlesex	15	Hopedale	Worcester	6
Conway	Franklin	2	Hopkinton	Middlesex	7
Cummington	Hampshire	3	Hubbardston	Worcester	9
Dalton	Berkshire	1	Hudson	Middlesex	7
Danvers	Essex	14	Hull	Plymouth	20

City/Town	County	CHNA	City/Town	County	CHNA
Huntington	Hampshire	3.1	Northampton	Hampshire	3
Ipswich	Essex	13	Northborough	Worcester	7
Kingston	Plymouth	23	Northbridge	Worcester	6
Lakeville	Plymouth	24	Northfield	Franklin	2
Lancaster	Worcester	9	Norton	Bristol	24
Lanesborough	Berkshire	1	Norwell	Plymouth	20
Lawrence	Essex	11	Norwood	Norfolk	20
Lee	Berkshire	1	Oak Bluffs	Dukes	27
Leicester	Worcester	8	Oakham	Worcester	9
Lenox	Berkshire	1	Orange	Franklin	2
Leominster	Worcester	9	Orleans	Barnstable	27
Leverett	Franklin	2	Otis	Berkshire	1
Lexington	Middlesex	15	Oxford	Worcester	5
Leyden	Franklin	2	Palmer	Hampden	4
Lincoln	Middlesex	15	Paxton	Worcester	8
Littleton	Middlesex	15	Peabody	Essex	14
Longmeadow	Hampden	4	Pelham	Hampshire	3
Lowell	Middlesex	10	Pembroke	Plymouth	23
Ludlow	Hampden	3.1	Pepperell	Middlesex	9
Lunenburg	Worcester	9	Peru	Berkshire	1
Lynn	Essex	14	Petersham	Worcester	2
Lynnfield	Essex	14	Phillipston	Worcester	2
Malden	Middlesex	16	Pittsfield	Berkshire	1
Manchester	Essex	13	Plainfield	Hampshire	3
Mansfield	Bristol	24	Plainville	Norfolk	7
Marblehead	Essex	14	Plymouth	Plymouth	23
Marion	Plymouth	26	Plympton	Plymouth	23
Marlborough	Middlesex	7	Princeton	Worcester	9
Marshfield	Plymouth	23	Provincetown	Barnstable	27
Mashpee	Barnstable	27	Quincy	Norfolk	20
Mattapoisett	Plymouth	26	Randolph	Norfolk	20
Maynard	Middlesex	7	Raynham	Bristol	24
Medfield	Norfolk	7	Reading	Middlesex	14
Medford	Middlesex	16	Rehoboth	Bristol	24
Medway	Norfolk	6	Revere	Suffolk	19
Melrose	Middlesex	16	Richmond	Berkshire	1
Mendon	Worcester	6	Rochester	Plymouth	26
Merrimac	Essex	12	Rockland	Plymouth	23
Methuen	Essex	11	Rockport	Essex	13
Middleborough	Plymouth	24	Rowe	Franklin	2
Middlefield	Hampshire	3	Rowley	Essex	12
Middleton	Essex	11	Royalston	Worcester	2
Milford	Worcester	6	Russell	Hampden	4
Millbury	Worcester	8	Rutland	Worcester	9
Millis	Norfolk	7	Salem	Essex	14
Millville	Worcester	6	Salisbury	Essex	12
Milton	Norfolk	20	Sandisfield	Berkshire	1
Monroe	Franklin	2	Sandwich	Barnstable	27
Monson	Hampden	4	Saugus	Essex	14
Montague	Franklin	2	Savoy	Berkshire	1
Monterey	Berkshire	1	Scituate	Plymouth	20
Montgomery	Hampden	4	Seekonk	Bristol	24
Mt. Washington	Berkshire	1	Sharon	Norfolk	20
Nahant	Essex	14	Sheffield	Berkshire	1
Nantucket	Nantucket	27	Shelburne	Franklin	2
Natick	Middlesex	7	Sherborn	Middlesex	7
Needham	Norfolk	18	Shirley	Middlesex	9
New Ashford	Berkshire	1	Shrewsbury	Worcester	8
New Bedford	Bristol	26	Shutesbury	Franklin	2
New Braintree	Worcester	9	Somerset	Bristol	25
New Marlborough	Berkshire	1	Somerville	Middlesex	17
New Salem	Franklin	2	South Hadley	Hampshire	3
Newbury	Essex	12	Southampton	Hampshire	3
Newburyport	Essex	12	Southborough	Worcester	7
Newton	Middlesex	18	Southbridge	Worcester	5
Norfolk	Norfolk	7	Southwick	Hampden	4
North Adams	Berkshire	1	Spencer	Worcester	5
North Andover	Essex	11	Springfield	Hampden	4
N. Attleborough	Bristol	24	Sterling	Worcester	9
North Brookfield	Worcester	5	Stockbridge	Berkshire	1
North Reading	Middlesex	14	Stoneham	Middlesex	14

City/Town	County	CHNA	
Stoughton	Norfolk	22	
Stow	Middlesex	7	
Sturbridge	Worcester	5	
Sudbury	Middlesex	7	
Sunderland	Franklin	2	
Sutton	Worcester	6	
Swampscott	Essex	14	
Swansea	Bristol	25	
Taunton	Bristol	24	
Templeton	Worcester	9	
Tewksbury	Middlesex	10	
Tisbury	Dukes	27	
Tolland	Hampden	4	
Topsfield	Essex	13	
Townsend	Middlesex	9	
Truro	Barnstable	27	
Tyngsborough	Middlesex	10	
Tyringham	Berkshire	1	
Upton	Worcester	6	
Uxbridge	Worcester	6	
Wakefield	Middlesex	14	
Wales	Hampden	5	
Walpole	Norfolk	7	
Waltham	Middlesex	18	
Ware	Hampshire	3	
Wareham	Plymouth	26	
Warren	Worcester	5	
Warwick	Franklin	2	
Washington	Berkshire	1	
Watertown	Middlesex	17	
Wayland	Middlesex	7	
Webster	Worcester	5	
Wellesley	Norfolk	18	
Wellfleet	Barnstable	27	
Wendell	Franklin	2	
Wenham	Essex	13	
West Boylston	Worcester	8	
West Bridgewater	Plymouth	22	
West Brookfield	Worcester	5	
West Newbury	Essex	12	
West Springfield	Hampden	4	
West Stockbridge	Berkshire	1	
West Tisbury	Dukes	27	
Westborough	Worcester	7	
Westfield	Hampden	3.1	
Westford	Middlesex	10	
Westhampton	Hampshire	3	
Westminster	Worcester	9	
Weston	Middlesex	18	
Westport	Bristol	25	
Westwood	Norfolk	18	
Weymouth	Norfolk	20	
Whately	Franklin	2	
Whitman	Plymouth	22	
Wilbraham	Hampden	4	
Williamsburg	Hampshire	3	
Williamstown	Berkshire	1	
Wilmington	Middlesex	15	
Winchendon	Worcester	9	
Winchester	Middlesex	15	
Windsor	Berkshire	1	
Winthrop	Suffolk	19	
Woburn	Middlesex	15	
Worcester	Worcester	8	
Worthington	Hampshire	3	
Wrentham	Norfolk	7	
Yarmouth	Barnstable	27	

Community Health Network Areas


1. Community Health Network of Berkshire
2. Upper Valley health Web (Franklin County)
3. Partnership for Health in Hampshire County (Greater Northampton Area)
- 3.1 Four (For) Communities (Greater Holyoke)
4. The Community Health Connection (Greater Springfield)
5. Greater Southbridge Community Health Network
6. Community Partners for Health (Greater Milford Area)
7. CHN of Greater Metro West (Greater Framingham Area)
8. Community Wellness Coalition (Greater Worcester)
9. Fitchburg/Gardner Community Health Network
10. Greater Lowell Community Health Network
11. Greater Lawrence Community Health Network
12. Greater Haverhill Community Health Network
13. Greater Beverly/Gloucester CHN
14. North Shore Community Health Network
15. Greater Woburn/Concord/Littleton CHN
16. North Suburban Health Alliance (Malden/Medford/Melrose Area)
17. Greater Cambridge/Somerville CHN
18. West Suburban Health Network (Newton/Waltham)
19. Alliance for Community Health (City of Boston/Chelsea/Revere/Winthrop Area)
20. Blue Hills Community Health Alliance (Greater Quincy Area)
22. Greater Brockton Community Health Network
23. South Shore Community Partners in Prevention (Greater Plymouth Area)
24. Health & Education Response (Greater Attleboro/Taunton Area)
25. Partners for a Healthier Community (Greater Fall River)
26. Greater New Bedford Community Health Network
27. Cape and Islands Community Health Network



Massachusetts Birth Certificate

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AS REQUIRED BY GEN. LAWS, CHAP. 66, SECT. 4

		The Commonwealth of Massachusetts DEPARTMENT OF PUBLIC HEALTH REGISTRY OF VITAL RECORDS AND STATISTICS STANDARD CERTIFICATE OF LIVE BIRTH				STATE USE ONLY	
1. RECORD NUMBER	3. PLACE OF BIRTH	3C. CITY/TOWN			3D. REGISTERED NUMBER		
1A. CERTIFICATE NUMBER (DPH USE ONLY)		3B. COUNTY					
768281		3A. FACILITY NAME-IF NOT IN FACILITY, NUMBER AND STREET					
2. FACILITY NUMBER	NAME	4A. FIRST	4B. MIDDLE	4C. LAST			
	5. SEX	6A. PLURALITY	6B. BIRTH ORDER	7. TIME	8. DATE OF BIRTH (Month, Day, Year)		
	9A. NAME	SAMPLE			9B. TITLE		
	9C. CERTIFIER TYPE	9D. LICENSE NUMBER					
	9E. NUMBER AND STREET	9F. CITY/TOWN		9G. STATE	9H. ZIP CODE		
	NAME	10A. FIRST	10B. MIDDLE	10C. LAST	10D. MAIDEN SURNAME		
	BIRTHPLACE	11A. CITY/TOWN		11B. STATE/COUNTRY		12. DATE OF BIRTH (Month, Day, Year)	
	RESIDENCE (Do not use mailing address)	13A. NUMBER AND STREET		13B. CITY/TOWN	13C. COUNTY	13D. STATE	13E. ZIP CODE
	NAME	14A. FIRST	14B. MIDDLE	14C. LAST			
22A. SOCIAL SECURITY CARD	BIRTHPLACE	15A. CITY/TOWN		15B. STATE/COUNTRY		16. DATE OF BIRTH (Month, Day, Year)	
INITIALS	17A. I (WE) CERTIFY THAT THE PERSONAL INFORMATION APPEARING ABOVE IS TRUE AND CORRECT.					17B. RELATIONSHIP TO CHILD	
22B. RESIDENT COPY	17C. DATE SIGNED (Month, Day, Year)	17D. MAILING ADDRESS (If different from item # 13 above)		NUMBER AND STREET	CITY	STATE	ZIP CODE
INITIALS	18. DATE OF RECORD (Month, Day, Year)		19. SUPPLEMENT FILED (Month, Day, Year)		20. CLERK/REGISTRAR		
1. OCCURRENCE	21. DPH USE ONLY						



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